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ABSTRACT

This is a report of the ACCESS (Alternative Comprehensive Community Environmental Study System), a prototype program in democratic policy making at the regional level. Presented first is a discussion of the relationship between science, technology, and regional policy and the use of visual communication for regional policy making. The second section of the report provides a summary of the project and the rationale for selection of Santa Barbara County, California as a region for study. The third section gives a presentation of the concept of the project, and the fourth section describes the design phase and the results of studies conducted in 1974. Activities and research for the future are described in section five. The appendix lists ACCESS publications, 35 references on visual perception, and the evaluators and consultants for ACCESS. (CH)

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INFORMATION, PERCEPTION AND REGIONAL POLICY

1975

WILLIAM R. EWALD, JR.
Principal Investigator

ACCESS
project
design
phase

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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ACCESS has been accorded Official Recognition by the American Revolution Bicentennial Administration for its contribution to the advancement of citizen participation programs, and the promotion of more responsive local governments.

Information gathered through this program can be useful to other communities or regions in the organization and development of similar efforts.

(on February 3, 1976, ARBA endorsed the ACCESS project as an Horizon project in the "Call for Achievement" program.)

The idea underlying the ACCESS project is a simple one. The ACCESS project is a national prototype exploration into new means to assist democratic policy making at the regional level.

The ACCESS project was undertaken to design a new process to improve regional policy through dialogue informed by research, which makes appropriate use of science and technology, assisted by graphic telecommunications.

The ACCESS project is especially concerned with perception and communication. Communication of facts, ideas and feelings is the cement of all human organization. In a free society the binder in that cement is "truth." For truth to make its contribution freely it must continuously be discovered, rediscovered, communicated and perceived.

ABOUT THIS REPORT

This report has three purposes:

1) to report to the National Science Foundation on the Design Phase of the ACCESS project;

2) to discuss information handling in relation to democratic regional policy making in a time of great complexity and change; and

3) to relate the significance of the ACCESS project in the South Coast Region of Santa Barbara County to national needs.

Two charts summarize the development and evolution of ACCESS as a project and a process: Evolution of the ACCESS Concept (pp. 30-31) and The ACCESS Research Design Matrix (pp. 56-57). A summary is provided at the beginning of each section of the report. (See also Visual Communication and Regional Policy Making, p. 9.)

TABLE OF CONTENTS

	Acknowledgments	viii
	Foreword	xiii
I	THESIS	1
	Science, Technology & Regional Policy	
	(Graphic: Geo-Coding Workshop at ACCESS)	5
	Visual Communications for Regional Policy-Making	9
	(Graphic: Capacity of Various Communication Channels)	12
II	SUMMARY	21
	What is ACCESS?	22
	Why a Region?	24
	Why Santa Barbara?	25
	Concept & Design of the ACCESS Process	26
	Evolution of the ACCESS Process	27
	ACCESS Accomplishments	29
	(Graphic: Evolution of the ACCESS Concept)	30-31
	Findings and Lessons Learned	33
	Next Step	35
	Implications	36
III	CONCEPT	41
	Problem and Need	42
	Scope	44
	(Graphic: Process for Creating a Human Environment)	44
	The Regional Policy Maker	47
	Perception and Credibility	49
	Design Through Action/Research	54
	Information, Policy Making & Decision	
	(Graphic: ACCESS Research Design Matrix	56-57
	Design to Date	58
	Ten Basic Design Elements	61
	The Regional Situation Room	
	(Graphic: NASA Forerunner of the Regional Situation Room)	72-73

IV DESIGN PHASE 79

Evolution of the ACCESS Project 80
Characteristics of the South Coast Region 82
Regional Issues and the ACCESS Project 85
Activities of the ACCESS Project 90
(Graphic: 1974 Highlights ACCESS Design Phase) 91
Accomplishments of the Design Phase 96
(Graphic: Historic Lugo Adobe Regional Situation Room) 101
Lessons Learned - Reconnaissance Phase 106
(Graphic: National Evaluation, July 26-27, 1974) 111
Lessons Learned - Design Phase 112
(Graphic: How Certain Groups View Participation and Technology) 119

V NEXT STEPS 123

Observations and Recommendations of the National Evaluation 124
The One Year Pilot Test - Two Demonstration Issues 132
(Graphic: Highly Realistic Dynamic Perceptions) 137
(Graphic: Accurate Static Presentations) 138
The One Year Pilot Test - Design of Regionwide System Components - 146
(Graphic: Computer Generated Display of Data) 155
The One Year Pilot Test - Evaluation 156
The 3-5 Year Regionwide System Research Demonstration 165
(Graphic: ACCESS Advisory Board First Meeting, October 25, 1974) 167

VI APPENDIX

ACCESS Publications and Visual Productions 171
Reading Bibliography in Visual Productions 176
National Evaluators of the ACCESS Project 180
ACCESS Consultants 183

THE SOUTH COAST REGION OF SANTA BARBARA COUNTY, CALIFORNIA, site of the ACCESS project, from a NASA satellite, 565 miles above sea level. Home for 163,000 people, the region stretches 60 miles east to west along the coast, 90 miles northwest of Los Angeles.
(Composite courtesy Department of Geology University of California, Santa Barbara)

ACKNOWLEDGEMENTS

The Design Phase of the ACCESS action/research project was supported by The National Science Foundation beginning in January 1974, following the June 1973 endorsement of over 25 institutions of the South Coast Region of Santa Barbara County. Local involvement in the Design Phase was completed in November 1974.

It is important to acknowledge the extent of this involvement at the outset of this report. A fundamental characteristic of the ACCESS process that the project designed is the collaboration of groups--at national, state and local levels--more diverse than are used to working together.

1974 SPONSORS (Funders)

National Science Foundation

Carpinteria City Council
Goleta County Water District
Santa Barbara City Council (financial support only)
Santa Barbara County Board of Supervisors
Santa Barbara County School District

American Society of Landscape Architects,
Southern California Chapter
Bank of America
Building Industry Association
George B. Cavaletto
Pearl Chase
Citizens Planning Association
Mr. and Mrs. James Forsythe
Friends of Santa Barbara County
Edwin J. Heimlich
Isla Vista Community Council
Anna Laura Myer
Leinie Nagel
Real Estate Board of Santa Barbara
Santa Barbara Beautiful
Charles K. Schmandt, Architect
Alice Sedgwick
Southern California Edison Company
Katherine W. Tremaine
Warner & Gray, Inc., Architects

1974 ENDORSERS (Supporters)

American Institute of Architects, Santa Barbara
The Ansul Company
Anthropological Research Company
General Electric, TEMPO
Goleta Valley Citizens Planning Association
Mr. and Mrs. George Huber
League of Women Voters of Santa Barbara
Los Padres National Forest
Sierra Club, Santa Barbara Group
Universal Heritage Investment Corporation
University of California, Santa Barbara

Local cooperation with the ACCESS project was led by the "patron saint" of Santa Barbara, Pearl Chase. To enhance the region, Dr. Chase for over fifty years has been joining with other Santa Barbarans in numberless ad hoc committees and civic associations--including the ACCESS project. More than any other single living person, she is responsible for the quality of the environment in the Santa Barbara region. Her counsel to the Principal Investigator, and her staunch support, gave the

ACCESS concept an opportunity to engage the community of the South Coast Region and to evolve.

At this writing over 80 civic leaders in the region count themselves members of ACCESS and freely contribute time to further its evolution. This interest and activity of the ACCESS Advisory Board, Executive Committee and membership have been the basis for the results of the Design Phase and for sustaining local cooperation.

In addition to Dr. Chase, I am especially grateful to Max L. Feldman and the individual contributions of Abdulhamid Akoni, Research Anthropologist; Charles Bensinger, Communications Consultant; Roland F. Bryan, UCSB; Peter C. Chapman, UCSB; Edward N. Dodson, General Research Corporation; Firmin F. Feuerborn, Building & Construction Trades Council; Damian Garcia, Casa de la Raza; Kevin H. George, City of Santa Barbara; George E. Goodall, County Farm Advisor; Norman F. Gutshall, Southern California Edison; and Marie Harvey, Secretary to Pearl Chase.

Others were Sue Higman, Citizens Planning Association; Hallock Hoffman, Fielding Institute; Mary Louise Kasson, League of Women Voters; Arthur T. Kvaas, Moseley Associates, Inc.; Carol Lawton, Santa Barbara City College; James D. Milliken, California Association of Realtors; Larry Padway, Isla Vista; Clifford Lee Pauley, Santa Barbara County Planning Department; Clifford Petrie, Area Planning Council; Don Renton, Los Padres National Forest; Joseph J. Sayovitz, UCSB; Jack H. Stoltz, Santa Barbara County Schools; Michael B. Towbes, Builder; William K. Wittausch, Citizens Planning Association; and Mary K. Wright, League of Women Voters.

Personal involvement and "earnest money" in support of the ACCESS project Design Phase was essential. But basic funding and recognition of the national implications of the ACCESS concept had to come from outside the region, from the National Science Foundation.1/ Dr. Robert W. Lamson, NSF project monitor for the ACCESS project, has made important contributions as both advocate and critic.

All funds for the ACCESS project were managed by The American Society of Landscape Architects Foundation, McLean, Virginia. The efforts of Gary O. Robinette and Margaret Tylek on behalf of the foundation have been most appreciated. ASLAF provided both a means to assemble funds for the ACCESS project, removed from local special interest pressures, and a means for the distribution of project reports to a nationwide audience of professionals.

Special mention must be made of Daniel Wormhoudt's work on the project since August 1974; of the critiques, writing and editing of Charlton R. Price and William R. Legg, and of the consultants to the ACCESS project listed in the Appendix. Also, Albert D. Biderman and William H. Huggins provided expert reading of the visual perception section of this report, for which my daughter Annalisa did extensive library research.

I am grateful to Arlene Nowell who managed the complex books of the project throughout the Design Phase and to the small, ever-changing staff, beginning with landscape architect Arthur C. Sylvester which performed essential work over the year, concluding with the part-time, willing industry of Victoria Frost.

Without the help of others, but especially without my wife, Katya, there would be no report.

WRE
July 6, 1975

1/ The National Science Foundation, now funded by Congress at the $700 million level, has grown since it was founded in 1950 to be one of the primary research instruments of this nation. For more than two decades it has funded basic research and education in the sciences. In recent years NSF has been directed by Congress to search for effective new ways to apply science and technology to help resolve national, state and local problems.

"Many new things in this fast-moving age make it difficult to keep pace with an ever-changing world. Let us communicate, cooperate and coordinate our efforts for good freely."

photograph by Leinie Nagel

Pearl Chase

FOREWORD

As a people we are becoming newly aware. We are aware of energy, technology, environment, employment and the economy, pollution, nature, resources, population--and CHANGE. We are becoming aware of these factors in terms of the world, nations, cities and village settlements--in increments of time that reach to the year 2000 and beyond. We are also becoming aware that all this change may be experienced differently through the different logics of different cultures. At the same moment we are becoming aware of the interrelatedness of every thing and every person.

The concept of the ACCESS project is to design a process to help comprehend the complexity of this reality--in this time of enormous change--in ways which can help us make better policy concerning the quality of life within regions. This seems to require us to create new means to facilitate peoples' access to information, expertise and to each other.

Participants in the ACCESS regional policy dialogue, informed by research, aided by interactive graphic telecommunications, and making appropriate use of science and technology, would invest themselves with new comprehension and new effectiveness. The process intended would facilitate the dispersal of knowledge to regions, and the greater use of science and technology to further human purposes in harmony with nature over the long term.

EPOCH - A New Beginning

> "...epochs sometimes occur in the life of a nation when the old customs of a people are changed, public morality is destroyed, religious belief shaken, and the spell of tradition broken, while the diffusion of knowledge is yet imperfect and the civil rights of the community are ill secured or confined within narrow limits. The country then assumes a dim and dubious shape in the eyes of the citizens; they no longer behold it in the soil which they inhabit, for that soil is to them an inanimate clod; nor in the usages of their forefathers, which they have learned to regard as a debasing yoke; nor in religion, for of that they doubt; nor in the laws, which do not originate in their own authority; nor in the legislator....
>
> "In this predicament, to retreat is impossible, for a people cannot recover the sentiments of their youth any more than a man can return to the innocent tastes of childhood; such things may be regretted, but they cannot be renewed. They must go forward...." - Alexis de Tocqueville (1805-1857)2/

Statements of the French writer de Tocqueville still live. Acknowledged as one of the most astute observers of America in history, if Pearl Chase is the "patron saint" of Santa Barbara, Alexis de Tocqueville is the "patron saint" of the ACCESS project. He recognized both epoch and "voluntary association," that particular American genius for coping.

The nature of our time is accelerating change, growing uncertainty--a threatened and threatening environment--call it an Epoch - A New Beginning. This change, as it has accelerated since World

---

2/Alexis de Tocqueville, in J.P. Mayer and Max Lerner's Democracy and America, Harper & Row 1966.

War II, is now so rapid, of such a scale, and so pervasive, it can only be appropriately compared with the industrial revolution of the 1800's and the agricultural revolution of 8000-6000 B.C. Population growth (and concentration) and technology are changing our understanding of time, distance, resources, environment, and above all, expectations. Each is interacting with the other and with people in new ways.

We can identify our time by de Tocqueville's definition above, and in contemporary terms, as a Technological Epoch. In the past, a significant invention was one that brought an increase in efficiency of 2-5 times. Since World War II, the effectiveness of computers in all ways, including speed, is said to have increased one million times and is expected to increase another 100,000 times in the next ten years and then continue to improve.

Atomic energy, in World War II, had a potency one million times greater than ordinary explosives. It alternately threatens and promises us the future. In the past century, the facility, volume and speed of communication are said to have improved by a factor of ten million, much of it since World War II. World population has grown 1,000 times since 1700 and while national populations double, their cities quadruple. "Business as usual" has grown more hectic by the day. Existing means for society to reach sound policy decisions falter more often.

We may have reached a transition period in the "Ascent of Man" that is the equivalent of his rise from the ape. But the mood of many today is pessimistic, tense, apathetic--generally one of dismay. Understanding, and the goodwill that makes understanding possible, has become more difficult. Many "practical" men of our day continue to plan their operations as if they can be much the same as in the past. They do not seem to sense that part of the solution to the urgent needs of today is innovation and anticipation of the next five, ten, fifty, one hundred years.... Government and private enterprise, both focused on the short term, seem either to underestimate

the circumstances or overestimate their capacities. And most of the people look to one or the other for solutions.3/

UPDATING DE TOCQUEVILLE

John D. Rockefeller III calls for The Second American Revolution, a Bicentennial Era from 1976-1989.4/ As we mark America's Bicentennial it can be said that the "Tyranny of the Environment" of a Technological Epoch is today's ruling tyrant, as overbearing as King George's "Tyranny of the Crown" in 1776.5/

And perhaps the capacity we need to cope with this tyranny is at the core of one of our greatest traditions, as de Tocqueville saw in 1832. Perhaps the "voluntary association," in twentieth century form, is the application of American genius that is now most needed to help deepen our capacity to master the "Technological Epoch."

3/Ewald, William R., Jr., "Managing the Environment Now, For the World Ahead," for the Edison Electric Institute national conference, January 27-29, 1972, at Santa Barbara on the concept of the "ACCESS process" and the possibility of the Santa Barbara Region for a pilot test.

4/Rockefeller, John D. III, The Second American Revolution, Some Personal Observations, Harper & Row, 1973.

5/Technological "Tyranny of the Environment" was examined by commissioned authors and "Committees of Correspondence" marking The American Institute of Planners 50th year. It was the Principle Investigator's basis for organizing AIP's widely sponsored, four year $1.25 million national consultation THE NEXT FIFTY YEARS--The Future Environment of a Democracy. Consultation books: Environment for Man, Environment and Change, and Environment and Policy were published by Indiana University Press, 1967, 1968. A 28 program videocassette series from the consultation, also entitled THE NEXT FIFTY YEARS, was completed in 1973.

Associations are sometimes referred to as a "third force" in American society. One contemporary writer had this to say:

> "This force represents neither business nor government, both of them established bureaucracies of professional specialists. Nor does it represent the academic establishment, which is the training ground for the professional specialists employed by business and government.
>
> The Third Force is a manifestation of a strong American habit, described vividly by de Toqueville more than a century ago. He observed that Americans, when confronted by a new need, did not wait for a Royal Commission or an executive decree. The American method was to form an ad hoc association of citizens to bring the need to the attention of all who might be concerned. Americans wanted to get things done, and this was the quickest way to do it. It was at that time America's answer to the charge that democracy is inefficient. It still is America's answer.
>
> An association of the kind that de Tocqueville described is indispensable if we want to make...changes called for...in time. Otherwise we shall allow ourselves to be backed into the future, fighting rearguard actions, crisis after crisis....For the reactions of bureaucracies are sluggish, and it takes more than one crisis to get any reaction from them at all..."6/

The ACCESS project, in the South Coast Region of Santa Barbara County, California, is designing a process for considering regional issues, options and impacts which is to be managed by a responsible "update" of de Tocqueville's "association."

6/From the preface by Richardson Wood, former managing editor of Fortune, in The Next Fifty Years Syllabus, by William R. Ewald, Jr., commissioned by the Academy for Contemporary Problems, unpublished.

The ACCESS project plans to examine a specific region's issues, values, options and impacts, and thereby to seek new means to use science and technology to achieve a human environment more compatible with nature. The ACCESS process to be tested will strive to be more rational, more pervasive, and at the same time more "self-instructive" (and of more use to the decision-maker) than the pressuring and public hearings called "citizen participation" today.

The ACCESS process proposes to offer means to help balance the common sense of citizens with the experience and skill of experts and decision-makers. The goal of the ACCESS process is to increase the capability of democratic decision making, leading to timely implementation in the fast changing complexity of the Technological Epoch.

William R. Ewald, Jr.
Santa Barbara
July 1975

I. Thesis

I. THESIS

The ACCESS project recognizes science and technology as driving forces for CHANGE. It also recognizes that they provide extraordinary tools to help manage CHANGE. These are large issues. Science and technology and human values are themselves changing, and democratic control of science and technology to advance the human purpose is yet to be perfected. Important as these issues are, how can we learn how to think and communicate more usefully about them?

This section of the report discusses how the examination of specific regional policy issues and options by the ACCESS project provides a practical basis to explore new ways to inject science and technology into environmental policy making. Incorporated into this study is an exploration of the contribution of visual communication, especially interactive graphic telecommunications, to perception and thought.

SCIENCE, TECHNOLOGY AND REGIONAL POLICY

> The world today is made and powered by science, and for any man to advocate ignoring science is to walk with his eyes open into slavery.
>
> - Jacob Bronowski

> Science must be humanized....It must be an integral part of our culture and must remain a part of it subservient to the rest.
>
> - George Sarton

Most discussion about better use of science and technology has been about national science policy or technological assessment in general. It is natural that such discussions take place at high levels. The subject is exceedingly abstract; it demands much specific knowledge and seems to attract articulate persons with a keenly developed concern for the "human condition." Certainly it is important that discussion with a "global perspective" continue.

A major tenet of the ACCESS project, however, is that such discussion on this level alone is insufficient.

By remaining at the level of global or national policy abstraction, science and technology are incomprehensible to all but an elite. In a democracy this makes it difficult for Congress, the President, and the "scientific community" to formulate and implement fundamental improvements regarding the application of science and technology. Until more of their constituents have had first hand, credible experience with such policy making "back home" it is politically impractical.

Support for this assertion can be found in the energy situation. "As is now being revealed, for decades all the urgings of science advisers in the White House, all the scientific advisory bodies and individual scientific, technological, and business experts testifying before Congress and writing in the papers in past years were unable to head off the current situation"...."the pace of change and the problems it has created have far outstripped our ability to bring science--long-range, comprehensive scientific thinking--to the point of acceptance and action by the political system." 7 /

Although it is part of our culture, science (and technology) has not been integrated with other elements of our society. Some people, probably many, are fearful that it will be, Orwell-style; others can accept the Bronowski and Sarton statements above. The latter recognize in science both a great threat and a great good which must be brought into the conscious working of society if the human purpose is to be furthered.

The ACCESS project, in its explorations to improve policy making, seeks ways to make greater use of scientific knowledge and scientific methods to help policy-makers at the regional level.

---

7 /Stever, H. Guyford, Director of the National Science Foundation at the meeting of The American Association for the Advancement of Science, San Francisco, February 29, 1974; Public Sciences Newsletter, MIT Press, May, 1974.

Dialogue at the regional level can be clarified by the understandable realities of a place people relate to. Such dialogue becomes more useful when there is an awareness of the natural barriers between scientists and politicians, and when it is carried on in a manner responsive to the public, inviting involvement and understanding.

By the nature of their professions, scientists are specialists, whereas politicians are generalists. Scientists often act as cooperating members of committees whereas politicians act as adversary lawyers. It is especially important to keep in mind for this project, that scientists tend to be visual thinkers, versus politicians as verbal thinkers.

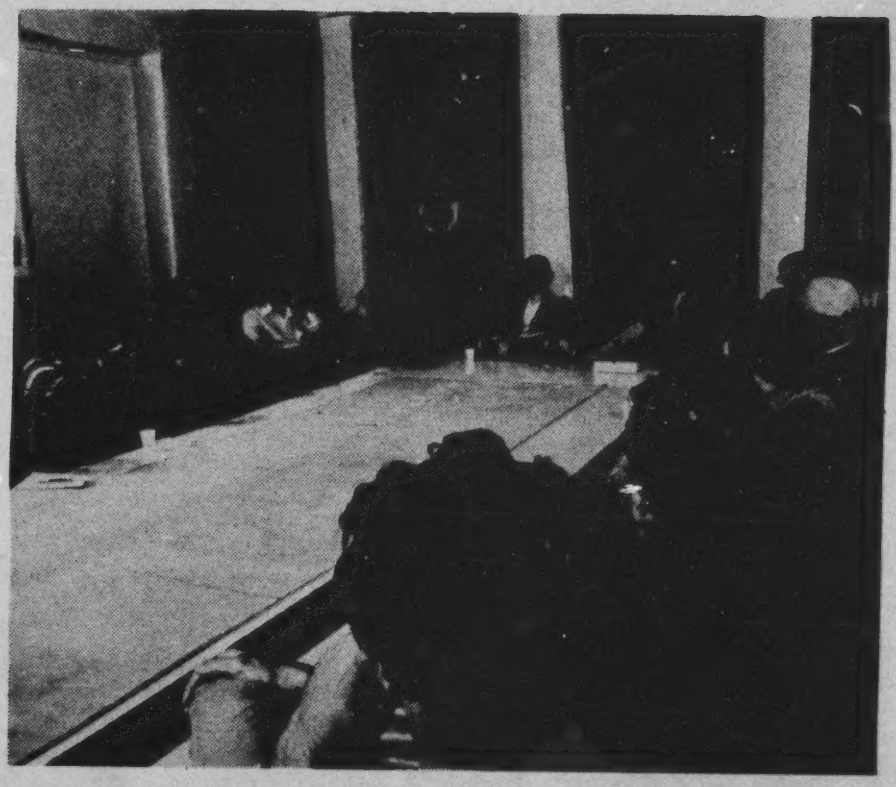
> "The scientist's role in society is to gain knowledge and understanding; the politician's is to decide and to act. Indeed, in our democracy he alone has the obligation, as the people's elected representative, to make decisions as to what society shall do and to take responsibility for those decisions. In his search for truth, the scientist is oriented toward the future; the politician's orientation is usually here and now." 8/

There must be much wider understanding of the potentialities and limitations of human action, science and technology. The ACCESS project, by examining specific regional environmental issues, seeks ways to involve the scientist, the politician, and the public in policy making.

> "Science...sweeps away superstitions that paralyze political responsibility. It opens up new opportunities and new possibilities

---

8/Revelle, Roger, "The Scientist and the Politician," Science, Vol. 187, March 21, 1975, pp. 1100-1105.



GEO-CODING WORKSHOP June 1, 1974 Students, professionals and citizens meet at the ACCESS Lugo Adobe. Morning Alhecama Theatre presentations are carried into an afternoon dialogue. (photograph by Leinie Nagel)

for cooperation, and thus makes the concept of public interest more meaningful, though at the same time more complicated and difficult to define...that is why the scientific community and the politicians need to develop the clearest possible idea of the working rules that govern their relationship. But it is not easy to define the ways in which scientists should be given support by government and permitted to exercise their initiative or influence on policy issues of interest to government." 9/

The most recent full-time science advisor in the White House to a President, Dr. Edward E. David, Jr., in a letter encouraging the ACCESS project's explorations wrote:

"...today it is increasingly clear that the anatomy of the world situation requires not only the unity of engineering and science, but also the extension of this unity to include other elements, namely, economics, social factors, legal considerations, and political issues. It is this coalition that is required for coping with the challenges of the 1970's and 1980's, just as the unity of science and technology was the theme of the 1950's and 1960's....The new unity I speak of...cannot become a reality without the kind of exploratory effort you are making. We understand far too little about public participation in decision-making, and I hope and expect to see new techniques toward this end."

9/Price, Don K. The Scientific Estate, Cambridge, Belknap Press of Harvard University Press, 1965, p. 274-275.

Technology Assessment and Technology Transfer

The ACCESS regional policy process could become an instrument for regional (and scientific) self-education for all those who take part in it--from official lawmakers to concerned lay citizens. It proposes, in a sense, a new form of continuing education (possibly available for students in school also). As such, it has the potential to provide a regional capacity for technology transfer, technology assessment, futures research and research utilization.

The ACCESS regional policy process serves a "midwife" function between information (including technology) and potential users. Through the ACCESS process a region can learn what it needs to learn; it can establish practical tests to refine knowledge to its own purposes.

This can be important. By now, for instance, federal agencies such as NASA and NSF have had a significant learning experience in their attempts to transfer technology and research to local levels. There seem to be certain limitations to the contribution that can be made to that transfer by either universities or local governments.

Advanced technology may already be well understood in universities, where much of it has evolved, but the universities' natural facility for "transfer" is, as part of the educational process, to its students. Transfer of technology by universities directly into the operating circumstances of local government and other local organizations has not been so well proven that it can be accepted as the obvious means.

Similarly, local governments, with operating bureaucracies which do have the capacity to use technology, are not, typically, familiar with rapidly changing technology. Besides, government departments are harried by their single function focus and the daily emergencies of their own operations with fixed budgets for dealing with them. Thus inhibited, technology transfer by

government is further dampened by elected officials who can seldom afford to take the risk of failure which lurks in innovation. They have both the real threats of technology to keep in mind and the easy political advantage that can be taken by political opponents eager to point out any failures.

To date, most federally sponsored innovative research with urban information systems and technology transfer has been performed in universities or local governments. Progress has been made, but it is limited and not widely disseminated. This experience has been a basic factor in federal agency interest in the ACCESS project.

The ACCESS project offers a place for testing technology transfer through a non-profit broadly based regional organization. Without being caught up in the primary operations of either government or higher education, the ACCESS project relates to them both. The politician or the university administrator, thereby, is not called upon to take the responsibility of a gamble with innovation. He can explore innovative ideas through the ACCESS community-based process where they can be tested and adapted before being officially adopted.

VISUAL COMMUNICATION FOR REGIONAL POLICY MAKING

A major emphasis of the ACCESS process is the visual display of information to address and communicate about regional policy issues, and to enhance regional policy dialogue, learning and information exchange. A wide range of graphic techniques--maps, models charts, photographs, film animation--would be used. Interactive computer-assisted graphics would be emphasized.

Visual perception and communication will be discussed at some length here. Perception and communication are central to the ACCESS design for developing a new competence to deal with the complexities of regional policy making (including related self-education, technological assessment, technology transfer, futures research, and research utilization).

The design for the ACCESS process recognizes, further, that a wide spectrum of interests and persons of different degrees of sophistication take part in regional policy formulation. This makes visual communication even more vital.

Words Versus Graphics

The investigator has found that visual communication seems to cut across the technical jargon of different specialties, minimizes semantic confusions, facilitates an expanded perception of a task which incorporates more points of view and reduces to insignificance lack of prior personal acquaintance of inter-disciplinary team members. For one policy study he established procedures which restricted each study team member to verbal or graphic (no written) exchanges. The work together was intensive and combined the products of many others not present. It was completed in a span of a few months although team members did not find it profitable to extend sessions beyond 2 1/2 consecutive days at a time.10/

It is not intended that the ACCESS process emphasis on visual communication exclude verbal language. (Actually, most persons have an ease in generating words which they do not possess in pictures, and this is likely to persist.) It is simply that in the ACCESS process it is recognized that reliance on words alone is a limitation that need not be accepted. For the important purpose of regional policy making in a fast-moving time, all means of cognitive and affective communication should be used.

> "...The function of language is essentially conservative and stabilizing, and therefore it also tends negatively to make cognition static and immobile."11/..."The word symbol which carries with it a fixed connotation tends to crystallize into static notions many of the concepts which can only be understood

---

10/Undertaken for Governor Nelson A. Rockefeller, the graphic report resulting was published by New York State in 1964 as CHANGE/CHALLENGE/RESPONSE - a 60-Year Development Policy for New York State.

11/Arnheim, Rudolf, Visual Perception and Thinking, p. 100. See APPENDIX for a bibliography of visual perception references.

in dynamic motion."12/"...The advantage of graphical output is that graphics represent a two-dimensional language as opposed to the one-dimensional language of verbal or printed media. The scanning and absorption process for two-dimensional information is much faster and more efficient than the one-dimensional information."13/

One-dimensional as referred to here means only one sort of perception is possible through verbalization, whereas visual perception offers content and relationships simultaneously. In combination the visual image and the spoken word offer the potential for complementary reinforcement.

Words alone make things less than their total, by analytically subcategorizing them. For instance, if you say an apple is red, you have made a "false" statement, in the sense that it is so incomplete. An apple is also round and three-dimensional, etc., etc., but you didn't say that. You can't present specific qualities verbally, except one at a time. That one-at-a-time sort of sequence is much further removed from the gestalt of reality than a visual image. What we see sequentially are whole perspectives, not individual qualities. For many important sorts of thinking (such as regional policy making) we need a dynamic, more nearly "total" means of communication than words by themselves allow.

New Graphic Technology

In computer generated images, "A dynamic dimension is now available that requires the invention and development of new conventions and a visual syntax appropriate to this new medium if

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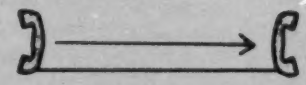
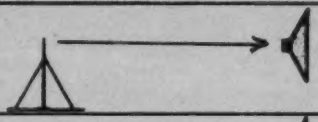
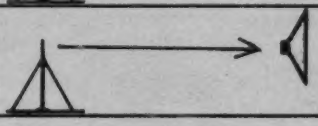
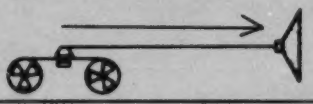
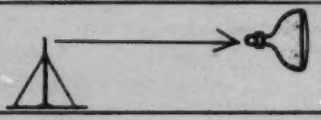
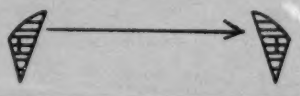
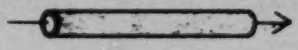
12/Cassirer, Henry R., "Learning to See", p. 504, 255.

13/Abrams, Marshall D. "Graphic Communication of Data from the Digital Computer", p. 280.

CHANNEL		CHANNEL BANDWIDTH (HERTZ)	CHANNEL CAPACITY (BITS PER SECOND)
TELEPHONE WIRE (SPEECH)		3,000	60,000
AM RADIO		10,000	80,000
FM RADIO		200,000	250,000
HIGH-FIDELITY PHONOGRAPH OR TAPE		15,000	250,000
COMMERCIAL TELEVISION		6 MILLION	90 MILLION
MICROWAVE RELAY SYSTEM (1,200 TELEPHONE CHANNELS)		20 MILLION	72 MILLION
L-5 COAXIAL-CABLE SYSTEM (10,800 TELEPHONE CHANNELS)		57 MILLION	648 MILLION
PROPOSED MILLIMETER-WAVEGUIDE SYSTEM (250,000 TELEPHONE CHANNELS)		70 BILLION	15 BILLION
HYPOTHETICAL LASER SYSTEM		10 TRILLION	100 BILLION

CAPACITY OF VARIOUS COMMUNICATION CHANNELS (Adapted from "Communications" by John R. Pierre, ©copyright 1972 by Scientific American, Inc., all rights reserved.)

it is to be fully used for communication and education."14/

Computer generated images provide a means for decision-makers and lay citizens to enter into regional policy dialogue with access to a vast amount of understandable information. Images can even be made responsive to query regionwide, via a return signal on co-axial cable. The technology exists but this use is unproven and most people are not themselves adept at generating images. For that reason, Huggins, while recognizing the capacity of computers to generate images, says "a word is worth a thousand pictures." Graphic literacy is at the core of the ACCESS exploration.

The accompanying chart shows how the capacity for communicating "bits" of information is growing. (Bit is a contraction for "binary digit", "0" or "1". This is the computer's way of stating choice, "black" or "white", "yes" or "no," which is how it "moves" information.) Measuring English text at one bit per character, experiments indicate that the information rate of speech is probably much less than 100 bits per second. Contrast that with the 60,000 bit per second capacity of telephone wire, the 90 million bits per second of commercial broadcast television and what is projected!

Still, if a picture costs at least as much as 1000 spoken words to transmit, those 1000 words are also more expensive to transmit than 1000 words in written text. We need to know in what ways the picture is worth the extra expense. Is the combined affective and cognitive learning that results from its use really worth it?

Traditional learning is primarily cognitive, verbal, and occurs in school. Affective visual learning is only beginning to be employed, most of it outside the school room. Education

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14/Huggins, W. H. and Entwhisle, D. B., "Computer Automation for the Academic Community", p. 623.

has been both limited in availability and directed to only "half" of our capabilities. Graphic telecommunications, on the other hand, may help establish an entirely new, and widespread, learning experience that contributes to a much better balance of affective with cognitive education. What will it mean if we learn to use our "total" minds?

Even though it can now be seen that enormous and widespread graphic capabilities could be made available we still seem to underrate the significance of visual communications. Scant research is going into its potential applications.

Visual Perception - Visual Thinking

Experimental psychologists have traditionally held that perception is separate from thought.15/16/ This may be one of the most vital of misunderstandings--missing the gestalt of reality--denying the power of affective as well as cognitive means of analysis/synthesis/communication.

Two of the most respected scholars concerning visual perception who challenge the notion that perception is separate from thought are Rudolf Arnheim and J. J. Gibson. Quoting from Arnheim:

> "My contention is that the cognitive operations called thinking are not the privilege of mental process above and beyond perception but the essential ingredients of perception itself."17/

15/Arnheim, Rudolf, Visual Thinking, p. 2.

16/Neisser, Ulrick, Cognitive Psychology

17/Arnheim, Rudolf, Visual Perception and Thinking, p. 100.

Gibson says essentially the same and goes further, stressing the uninhibited nature of visual information:

> "Not only do we perceive in terms of visual information, we can also think in those terms. Making and looking at pictures can help us to fix those terms...visual thinking is freer and less stereotyped than verbal thinking; there is no vocabulary of "picturing" as there is of "saying".18/

Scientists and engineers as well as artists, architects and designers tend to think in graphic terms. But developing this visual capability to think is not part of our educational curriculum. Our concept of intelligence is largely based on verbal aptitudes. Verbal performance so dominates education one wonders if we don't indeed "harbor a crippled concept of human potentiality."19/

One assumption of the ACCESS process design is that our inadequately developed ability to think as well as our inability to communicate regarding complex issues, such as regional policymaking, makes us pessimistic about mastering change. If the two capacities go together--as in perception and thought--a process which recognizes this interdependency may help free the human mind, and society at large, for the multi-variable policy research ahead. The technological means for combining communications and graphics for this purpose is at hand.

> "...Computer graphics will become a part of thinking and problem solving and decision making wherever those functions are carried out. Design will, of course, be a major application

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18/Gibson, J. J. "The Information Available in Pictures", p. 93.

19/Eisner, "Media Expression and the Arts", p. 103.

area: design of all kinds of systems and processes--space, urban, transportation, manufacturing, military--as well as devices and structures. Applications will abound in research and development and in medicine. But the application area par excellence will be education."20/

The ACCESS Project -Exploratory Research in Visual Perception

"The information provided by a picture is information for perceiving in the widest sense of the term, not only for remembering something in the past but also for conceiving something in the future - in short, for apprehending."21/

Visual perception may help lead us to the freer way of thinking a Technological Epoch would seem to call for. Today we can be solemn when we talk about long range planning, without being serious about applying it, because the future is such a complex abstraction. The way we communicate about the future does not compete with the current crisis for serious attention.

Perhaps through color, pattern, motion, sound and the ability to interact with visual images we can readily structure abstract conceptual perception (and thinking) about the future. Perhaps images of the future can be generated which can command immediate attention in policy dialogue when combined with the power and realism of voice and other sounds. Such images would be assured of the greatest possible constructive use if they were also subject to instant challenge and query.

The ACCESS project proposes to investigate this possibility, first in its one-year Pilot Test and then as a 3-5 year region-wide System Research

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20/Licklider, J.C.R., "A Picture is Worth a Thousand Words - and It Costs...", p. 620.

21/Gibson, p. 90.

Demonstration. Free of the constraints of traditional institutions, the ACCESS project offers a basis to study and test the potential of visual communication as it relates to the complex thought involved in regional policy making.

When we speak of policy dialogue we mean two or more persons conversing or reasoning together. Dialogue can be written. The term as commonly used, however, relies on the spoken word made more meaningful by the participants' perceptions of each other, face to face. The ACCESS process expands this means of conversing and reasoning together to provide explicitly for visual communication (of all kinds but especially interactive graphic telecommunications).

In so doing, there is no intention in ACCESS policy dialogue "to underrate the importance of the conscious formulation of verbal concepts, the traditional form of expression for great thinking. The aim is rather to enlarge the foundation of this expression, to guard against intellectualism devoid of emotional meaning to modern man"22/... and to help cut through, quickly, great complexity to reveal interrelationships and processes.

The ACCESS concept of "visualized" policy dialogue would be at its richest for regional policy making purposes, occurring in a special place for 10-25 persons. We call it a Regional Situation Room. It would be especially equipped for information retrieval and visual display. For maximum flexibility, and for the capacity to handle large volumes of information with comprehension, the ACCESS project proposes to explore the effectiveness of "responsive" graphic telecommunication. Information in this form could be generated from computers, projected on the wall of a Regional Situation Room, interconnected to other meeting places (or terminals) and carried throughout the region by cable television--with an ability to initiate or respond to the graphic display built-in.

22/Finn, J.D., "A Look at the Future of A-V Education", p. 247.

Of course a significant part of the dialogue in a Regional Situation Room would be the signals that are read in face-to-face interpersonal communication. It is assumed that the visual media selected would be appropriately matched to the content of the issue under discussion. Recognizing the power of affective communication, it is also vital that appropriate measures be taken to guard against poor information, misrepresentations and emotional manipulation. The means by which this is accomplished is, in fact, being explored by the ACCESS process design.

Policy dialogue, in the ACCESS design, combines affective perception, and an awareness of the personal interrelationships involved, with the need for quick access to volumes of information. This seems to demand the sort of storage, access, processing, display (graphic telecommunications) that is possible only with the assistance of computers.

It has been said that at the present rate of increase, figuring two hours per book, it would take one person reading 24 hours a day, approximately two years to read the 15,000 volumes received in sciences and technology by the Library of Congress during a 3-month period.23/

We need this incredible, specialized, ever-increasing lode of information but through today's traditional means it is unavailable to us for regional policy making purposes.

In the ACCESS process, computers would be used both to retrieve and analyze information. Visual display would convey both content and relationships via computer-assisted graphics compatible with color television. This is a potentially powerful means of communication. The ACCESS project recognizes this and in future stages would encourage its use as a test bed to study and establish visual conventions which would preclude misrepresentation and protect the viewer by indicating the tentativeness, accuracy, authority and timeliness of information displayed.

23/Cassirer, Henry R., "Learning to See", p. 504.

II. Summary

II. SUMMARY

The purpose of this section of the report is to summarize the concept and design, evolution and implications of a new process to improve regional policy-making. Known as ACCESS (for Alternative Comprehensive Community Environmental Study System) the process is in its design and exploratory stage.

The ACCESS project makes exploration of a complex subject manageable by bringing it down to the level of a very small region. With concerned people of the South Coast Region of Santa Barbara County, California, ACCESS staff and consultants plan to study specific environmental problems (and opportunities) using the ACCESS process. By testing and evaluating the process, the project proposes to develop a systematic organization and methods which can be adapted to policy making in regions from the scale of rural development districts to metropolitan or multi-state regions many times the size of the ACCESS region.

WHAT IS ACCESS?

ACCESS is an action/research project concerned with policy making and citizen involvement in a fast changing time. As such, it must be concerned with the long range future. Its work is to define a regional process to help decision-makers and interested citizens better anticipate, understand, and manage change. ACCESS is conceived as a national pilot project to design a continuing process to increase people's capabilities to defend and enhance the Quality of Life in their region as they determine it.

The ACCESS project is sited on the South Coast Region of Santa Barbara County, California, from the crest of the Santa Ynez mountains into the Channel, from Point Conception to Rincon Point at the Ventura County line. (10 x 60 miles, 163,000 people)

In its Design Phase, ACCESS has been sponsored and/or endorsed by more than 25 organizations throughout the South Coast Region and supported by the National Science Foundation. (Its funds were administered by the American Society of Landscape Architects Foundation.)

The objectives of ACCESS as stated by its members are:

- to locate the information needed to evaluate properly alternative policies of concern to city council members, county supervisors, and other regional policymakers

- to assemble, display and transmit regionally significant and timely information in ways that facilitate more comprehensive approaches to policymaking

- to focus on community policy choices and their long term regional consequences

- to concern itself with regional environmental issues, conceived in the broadest sense of the word (physical, economic and cultural)

- to study for the most creative practical resolution of issues within the region

- to integrate regional policy by means of a system which makes better use of science and technology for furthering the human purpose and "Quality of Life", as defined by the people of the region.24/

The purpose of the ACCESS project can be stated simply: It is a national prototype to explore new means to assist regional policy making.

But "region" itself is a perspective unfamiliar to most people; regions are typically without an integrated decision-making process; the information required in these fast-changing times is profuse, dynamic, often technical; technology and local leadership are themselves rapidly changing.

The introduction of a new process using new means, such as telecommunications, to assist regional policy making, therefore, is definitely not simple.

24/Resolution of ACCESS Advisory Board, February 13, 1975.

Citizen and decision-maker access to information and policy making, on a region-wide scale in this era of complex, rapid change calls for a "systems approach" that makes use of the capacities of computers. This in itself is not automatically accepted, nor should it be. Comprehensive, interactive, computer-assisted graphic information must be made available on a basis that prevents:

(1) centralization of information that is closed to public examination, challenge and use;

(2) manipulation of data and information that distorts or forecloses thoughtful study of alternatives; and

(3) invasion of proprietary and personal information.

Furthermore, annual, categorical grants at the federal level, combined with fractionated political authority at the local level, contribute substantial dis-incentives for organizations and individuals to gather, maintain and process the information that is needed to make long range regional policy. In the South Coast Region of Santa Barbara County, the ACCESS project is attempting to design the sort of informative dialogue regions need, demonstrate how it would operate, and determine what sort of contribution it actually can make.

WHY A REGION?

Region, for the ACCESS project, is defined as the largest territory of common concern of a functioning pattern of human settlements, which has the greatest opportunity to match problems and potentials with resources--whether or not there is presently a unified regional government. Typically, regions in this country are multi-county or multi-state, without focused representation, skilled research, organized decision-making capacity or adequate regional policy dialogue.

A regional perspective strengthens the opportunity to:

- consider the long range impacts of current actions

- match the scale of the decision process to the scale of problems

- create integrated solutions to problems (transport, housing, water, waste disposal, energy, land use, etc.)

- consider the social and economic impacts of changing the physical environment

- provide for feedback from citizens to other policymakers

- make appropriate use of science and technology.

WHY SANTA BARBARA?

The objective was to pick a region of the nation for this complex exploration where the opportunities for success were believed to be the highest. The resources of the South Coast Region for the purposes of this exploration, as estimated from the outside when selecting it, have all been confirmed. It is true that "The Santa Barbara region probably has the culture of a metropolitan area ten times its size." 25/ (See Section IV, DESIGN PHASE, p. 82)

Reasons for selecting the Santa Barbara South Coast Region for this national exploration include the fact that it is (1) all in one county; (2) recognizable as a region by the people resident in it; (3) small enough for cost-effective exploration, but complex enough with its incorporations, water and school districts to represent the interrelated problems within development districts, major standard metropolitan areas or states; (4) very concerned about its environment, with a long history of citizens skilled at

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25/ John Wilkinson, Senior Fellow at The Center for the Study of Democratic Institutions, ACCESS Workshop, July 2, 1974.

working to protect it, rekindled by the 1969 oil spills; (5) has University of California, Santa Barbara - a major state university offering a base of skill and facilities needed by the project - plus other research organizations; (6) has extensive regional coverage through the ninth largest cable television system in the country - with two-way capability in 1976.

CONCEPT AND DESIGN OF THE ACCESS PROCESS

The ACCESS project is an effort to design a process to improve regional policy-making and to involve local organizations and individuals in helping to create that design. The ACCESS process incorporates capabilities which facilitate self-education, technology assessment, technology transfer, research utilization and futures research.

The specific functions which the ACCESS process would perform are:

(1) to study and communicate about regional problems, options, and their long term consequences.

(2) to provide a neutral forum for policy dialogue which emphasizes graphic/visual techniques of communication to explore alternative regional policies using relevant and appropriate technology. (The process itself does not decide or implement policy.)

The design characteristics of the ACCESS process are:

(1) it is regional in scope;

(2) it is based in the non-profit, public interest sector;

(3) it is informed by research, making appropriate use of science and technology;

(4) it facilitates policy-makers' (including the interested public) access to information and to each other, particularly through

policy dialogue in a "regional situation room", and via remote terminals, and

(5) it stresses the use of modern communication, especially computer-assisted, interactive, graphic telecommunications.

The ACCESS project has ten basic design elements which it will explore in the development of the ACCESS process. These are listed below, briefly amplified. (See Section III, CONCEPT, pp. 56-57, 61.)

People - who is involved

Policy Questions - basic to all issues

Interrelationships - with existing institutions and activities

Social Processes - how people are involved

Intellectual Tools - data, surveys, computer programs, theory

Technological Tools - "situation room", computers, TV, remote sensing

Institution/Organization - to manage the process

Resources - financing, people, facilities

Evaluation - method and criteria

Utilization - adaptability, transferability

EVOLUTION OF THE ACCESS PROCESS

A possible pilot project in the South Coast Region was first mentioned at the Edison Electric Institute Conference in Santa Barbara, January 1972 26/, although the concept of the ACCESS process had evolved for the Principal Investigator over thirty years of work. Consulting contracts with The

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26/See footnote 3.

National Science Foundation in 1973 supported both a reconnaissance of this possibility and a survey of relevant graphic telecommunication.27/

By June, 1973, over twenty-five quite diverse institutions and civic leaders of the South Coast Region had committed themselves to support an exploratory phase of ACCESS. In January 1974 NSF provided the basic support in a grant through the American Society of Landscape Architects Foundation.

The uncertain period from June 1973 to May 2, 1974 was spanned with the assistance of a self-selected ad hoc coordinating committee. This committee and the diverse nature of the sponsorship made effective the Principal Investigator's urgings for wide participation in ACCESS at the exploratory stage. On May 2, 1974, the first organized meeting of ACCESS was held. Over 90 attended and organized themselves into six work committees:

> Data and Information, Research Resources, Relationship to General Plan, Organization, Broadcast and Cable TV, and Computer Systems and Graphics.

By May 1974, the historic Lugo Adobe, half a block from the Santa Barbara City Hall, had been refurbished as ACCESS meeting space, consultant contracts let and the small ACCESS staff, later bolstered by students, assembled. As they had chosen from the outset, citizens of the region served as reviewers of ACCESS staff and consultant work papers.

After an NSF site visit in June, additional funds were added to the project. The national evaluation of ACCESS initial policies, which took place during July 25-26, cited the importance of the ACCESS project and advised, as the ACCESS study groups had

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27/See Appendix for both these references and a complete listing of ACCESS publications and visual productions.

concluded, that the project needed to demonstrate its process. Both the evaluators and ACCESS members said emphasis on graphic means to discuss policy would require testing with several specific regional issues before it could be understood in the community, or its design sufficiently completed for a 3-5 year regionwide systems test.

By August 21, ACCESS members from all six study committees completed a series of dialogues structured to define regional issues and to help select the most appropriate ones for a one-year Pilot Test. Out of this experience of work together a citizen's Advisory Board of 29 was organized. On October 22 an Executive Committee of nine was formed. In November 1974 the project Report to the South Coast Region, incorporating eight policy recommendations, was delivered; a half hour television show was produced and broadcast three times. Presentations were made to the County, the City of Santa Barbara and the City of Carpinteria--the Design Phase was completed. (See Section IV, DESIGN PHASE, p. 91.)

A draft proposal for the one-year Pilot Test was delivered to NSF in October 1974. The proposal of February 28, 1975 was expanded and resubmitted May 23, 1975. From January to August, 1975, the Principal Investigator spent two weeks of each month in Washington making ACCESS presentations to NSF and federal agencies. In January, ACCESS membership began study of the sort of non-profit organization ACCESS should become.

ACCESS ACCOMPLISHMENTS

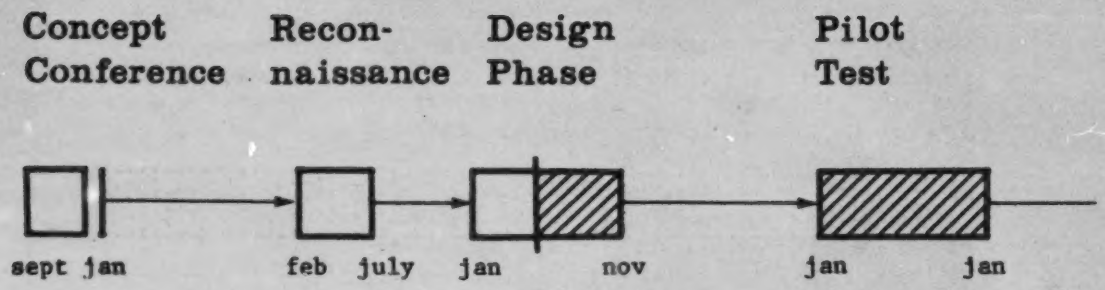
Specific project accomplishments during the Design Phase (January 1974 - November 1974) include:

(1) Definition of the ACCESS regional policy making process and its ten elements;

(2) On the organizational level, the creation of six Study Groups (80 members), an Executive Committee (9 members), and an Advisory Board (29 members);

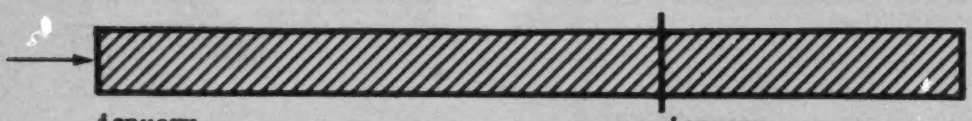
(3) The creation of a "Regional Situation Room"

Evolution of the



ACCESS Concept

Regionwide System
Research Demonstration and Verification



january — january

1977 — 1978 — 1979 — 1980 — 1981

laboratory demonstration of application

preparation for full-scale field applications

TASK

to assemble and test components of ACCESS policy making process, including regionwide, interactive graphic telecommunications

to begin research into the topology of graphic communication

to develop staff, data bases, equipment tests; estimate applications, costs and funding, including institutional user charges

TASK

to establish cost/benefit criteria and match various scopes of service with region size

to continue graphic communications research; establish training in ACCESS process

to determine potential applications nationwide as well as basis for continuing ACCESS services to the South Coast Region

which provides a neutral forum for analysis and dialogue about regional problems and options using visual means of communication, and for use and application of relevant technology and research results;

(4) Two workshops on geo-based information systems for regional planning;

(5) Twenty-four Resource papers, including five surveys, contained in 500 pages of documentation on the process used to create the design for ACCESS;

(6) A favorable national evaluation;

(7) A Design Phase Report to the South Coast Region containing sections dealing with: Issues and ACCESS, Data and Information, Research Resources, Relation to General Planning, Organization, Cable and Broadcast TV, Computer Systems and Graphics, and Financial Feasibility; and the one Pilot Test.

(8) Three videocassettes concerning the ACCESS process, one of which includes a section which demonstrates how various graphic techniques (using physical models as well as computer graphics) can be used to analyze regional policy problems and options; one defining the purpose of the project; another demonstrating its transferability;

(9) Progress reports, briefings and presentations to use what has been learned in the Design Phase;

(10) Sustained regional support;

(11) Broadened familiarization and potential support from federal agencies;

(12) This report to the National Science Foundation.

FINDINGS AND LESSONS LEARNED

Findings of the ACCESS action/research project--by its nature--are really an emphasis or restatement of certain aspects of its accomplishments and lessons learned:

(1) the ACCESS design evolved from concept, to theory, to six study committees, to the structure of ten basic elements during the Design Phase and as such demonstrated that action/research directly involving people as participants, is a useful technique for applied social science study;

(2) the utility of a "Regional Situation Room" as one specific place to facilitate, conduct and sharpen dialogue, including the evolution of the ACCESS process itself, was demonstrated;

(3) meaningful discussion about the graphic-oriented ACCESS process, when carried on without adequate visual demonstrations, ranged from difficult to impossible;

(4) Understanding and evaluation of the ACCESS concept--complex, integrative and interdisciplinary as it is, and combining action, research and demonstration in actual problems in real life situations--is very difficult for an expert in one field of specialty, or for a person caught up in the operation of a traditional one-function institution;

(5) federal agency interest in the ACCESS project stemmed as much or more from searching for effective ways to discharge their new responsibilities under the 1969 National Environmental Policy Act (NEPA) as any other factor (devising new ways to obtain sufficient and meaningful involvement of citizens in environmental policy making);

(6) the utility of visual communication made responsive to the viewer for policy making purposes is more readily recognized by "operations" than "research" people, and finally;

(7) there is no generally accepted technique to evaluate an ACCESS-like project, let alone fund it.

Three basic principles for establishing a regional process such as ACCESS were reported July 1973 after the Reconnaissance Phase. They still stand, namely:

(1) Sponsorship of the initiating action must clearly gain nothing material for the sponsors, which probably means funding from outside the region;

(2) Efforts to explain and organize must be, and be accepted to be, independent of any public or private institution or any sector of society in the region concerned;

(3) Open discussion, participation and support should be sought from all sectors of the region from the very outset, while avoiding involvement in any political contests.

These three basic principles were expanded with a list of specific suggestions, "a to z."28/

Six basic lessons learned from the Design Phase of the ACCESS project (January - November 1974) are selected here for emphasis. To establish an ACCESS-like process, plan for:

(1) 2-3 years' funding;

(2) competent staff, at least 3;

(3) timing the effort with the school year;

(4) a permanent meeting place, at least a minimally equipped "Regional Situation Room";

(5) early milestone results; and

(6) resistance to technology, per se.

Since the ACCESS project is intended as a national prototype, "Lessons Learned" are reported on at length in Section IV, DESIGN PHASE, pp. 106-120.

28/Ewald, William R., Jr. ACCESS, the Santa Barbara Regional Pilot Test, 1975, p. 11.

NEXT STEP

The next step proposed after the Design Phase is a one year Pilot Test, preparatory to a 3-5 year Regionwide System Research Demonstration. (See also Section V, NEXT STEPS, p. 132.) The purpose of the Pilot Test is to complete the design of the ACCESS process. To accomplish this the ACCESS project would:

(1) Use two specific regional issues, as derived from citizen dialogue during the Design Phase, to refine the design and make it more concrete, using graphic communication:

- Fuel breaks in the Santa Ynez Mountains
- Water quality and quantity as it relates to land use

(2) Study and define six components of the Design Elements (p.146), for which more specific information is required to detail the design of the ACCESS process and necessary for a 3-5 year regionwide system research demonstration:

- geo-based data techniques
- machine-readable annotated bibliography of data and information sources
- machine-readable tabulation of research resources (people, facilities and institutions of the region)
- the organization to manage the ACCESS process
- means to reach and involve hard-to-reach publics
- equipment, facilities, media, systems

(3) Evaluate ACCESS project:

- overall policy directions, project design,

future costs

- project activities, organization, community relations, process design

- community impact, learning experienced via selected visual communication

IMPLICATIONS

To deal with the long range implications of regional policy choices in these changing times is to deal with the abstractions of information-handling and societal values. A basic thesis of the ACCESS project is that to usefully examine policy options and their long term consequences requires the direct involvement of more persons and appropriate and comprehensible use of science and scientific methods. "Appropriate" here is taken to mean supportive of the human purpose and compatible with nature, as well as cost-effective. "Comprehensible" is here defined to be perception brought to an awareness that is useful because valid information is readily understood and credible.

The one year Pilot Test is a trial exploration of the ACCESS process. It provides "test case" visual communications to increase comprehension of scientific and technical information as related to issues of regional concern. A 3-5 year regionwide research demonstration is planned to broaden and deepen this experience.

Implications of the 3-5 year research demonstration are considerable. The ACCESS project will attempt, through exercise of its process, means of involvement and use of technology to help close the gap between scientific knowledge and societal decision-making. In so doing, the project proposes to explore the contribution of visual communication to the complex information-handling, perception and thought involved in dialogue about regional policy issues, impacts and options. (See Section I, THESIS, p. 9.)

A major contribution of the ACCESS project as a national model may be the organization of the Pilot Test itself. Acting as grant applicant, the University of California, Santa Barbara has a recognized technical competence, combined with organizational and financial integrity with which to assure potential funders. Through its Community and Organization Research Institute (CORI) the university has the ability to locate and apply many different skills to local problems. In fact, facilities throughout the University of California system can be readily integrated into an applied social science research project like ACCESS.

By subcontracting the definition and application of these skills and facilities to a non-profit citizen-based organization, such as the Community Arts Association, a "practical" discipline of esoteric knowledge can be exercised by citizens and policy makers. The coordination of the two is achieved by the Principal Investigator serving in the dual role of Professional Researcher in CORI, and as project manager for the Community Arts Association.

The ACCESS project proposes to use color, pattern, motion, sound, and, in the 3-5 year phase, two way communication to "interrogate" information bases. In the one year Pilot Test this would be achieved through the direct involvement of diverse individuals in defining alternatives, editing their presentations and incorporating their responses into the final presentation. "Interrogating" information bases would be possible during the Pilot Test operation of the ACCESS process to a limited degree through the selected option presentations which could be readily called up in the Regional Situation Room for viewing and discussion.

But the one year Pilot Test is intended only for demonstration, refinement and validation of the ACCESS concept. It actually provides only an indication of the utility of graphic information processing and technology applied to policy dialogue29/. It

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29/Ewald, William R., Jr. GRAPHICS for Regional Policymaking, NSF, 1973.

would take 3-5 years to arrange for graphic displays of information on regional issues that would be instantly responsive to the "what if" inquiries of persons in the Regional Situation Room, or at television terminals throughout the region.

The ACCESS project would, at the same time, create an important test-bed for research on fundamental questions of perception and learning. It will take a sustained effort over three to five years to provide evaluative research of this complex multi-variable social science project.

III. Concept

III. CONCEPT

The ACCESS project assumes that this is a time of extraordinary change, that this change is pervasive, and that to manage it will require us to reeducate ourselves to the task.

The purpose of the ACCESS project is to design and explore a process which manages information needs at the regional level for policy making concerning the Quality of Life in a Technological Epoch. As such, ACCESS is concerned with making the complexity of reality comprehensible for the purposes of policy makers, including public participants. A fundamental tenet of the ACCESS process is that visual communication is essential to the understanding of this complexity.

This section defines the concept, objectives and design of the ACCESS process.

PROBLEM AND NEED

We live in a free society. But if we do not understand the consequences of our choices, in this fast moving time of change, are we really free?

How can we shape the future effectively rather than merely react to events? Where can we turn for the comprehensible information we need in this Technological Epoch?

Constrained by the extreme pressures of explosive change, present institutions concerned with managing the environment have often been unable to:

(1) consider the long-range impacts of present actions, for example with regard to such problems as energy usage, natural resource allocation and environmental hazards;

(2) design and implement integrated decision-making processes. This failure has resulted in (a) unnecessary and costly redundancies in data collection, policy formulation and program design; (b) the inability to coordinate planning efforts in circumstances which require swift and concentrated action beyond the capacity of any single local institution or agency; (c) the inability to coordinate vitally needed large-scale programs in such areas as transportation and housing; and (d) misunderstandings and friction among planners and between planners and the lay public;

(3) institute systematic and effective programs to obtain public feedback on proposals likely to incur significant impacts. Public involvement is particularly necessary in the early stages of a planning process, when citizen input is valuable both substantively and in terms of forestalling potential future criticisms and opposition;

(4) experiment with and employ powerful information processing and graphic technologies now available to analyze, synthesize and communicate regional problems and alternative solutions to regional decision-makers and citizens.

The problem, as it has been defined, suggests the need. It is to solve or at least to ameliorate the problems to which regions have become increasingly vulnerable. It is true that this need will be difficult and costly to meet. But the failure to do so will leave us where we are: increasingly uncertain about and vulnerable to the fundamental transformations and upheavals which characterize the time we live in. In Thoreau's metaphor, more apt now than when he wrote it, it is a question of whether man will ride the horse or the horse will ride man.

Our survival and well being depend on our ability to:

(1) harness our resources effectively to solve the problems which confront us; and at the same time, to

(2) protect and promote such values as freedom and representative government.

Therefore we need to:

(1) create more accurate perceptions of problems, causes, impacts and options; and

(2) create better consensus about the problems which confront us, and their possible resolutions.

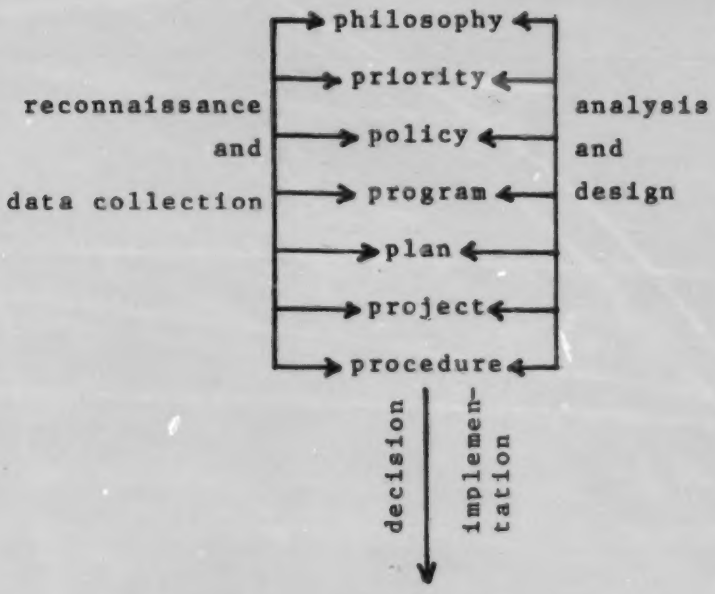
Access for people to information, expertise and to each other is the new necessity of life. Policy dialogue is a needed key for this new coming together in society.

Since the problems which confront us occur at all scales of decision-making--international, national, regional, state and local--effective policy dialogues, informed by research, are needed at all levels. No one planning/decision-making system can resolve the difficult problems which confront us. It is vital, therefore, that attempted improvements be explored at whatever scale is appropriate to the problem. The ACCESS project is focused at the regional level.

SCOPE

The scope of the ACCESS process, and the degree and type of policy involvement sought, calls for involvement of all interested parties at every stage of making a decision: from determining what data to collect, through its interpretation as information, to analysis; from the synthesis of alternative policies, and the evaluation of their long and short range consequences to their implementation and foreseeable obsolescence. This is a matter of continuing data collection, analysis, communication, and involvement.

PROCESS FOR CREATING A HUMAN ENVIRONMENT



For the development of a future environment that admits and enhances the rational-non-rational-extra-rational qualities of individuals, we need the scientific approach: to observe, relate, abstract, distinguish, deduce--and more. We must start with an encompassing philosophy derived from our values and proceed straight through a whole (reconnaissance and research, analysis and design, decision and delivery) system to decision and implementation.

It is the balance of human intellect, emotion, and spirit that is critical. The process of creating the future social, economic, and physical environment will either steady or tip this balance....In attempts to decide upon a course in these stressful days, we can and do oversimplify. We are sometimes told our choice for building the future environment is between practical technology (read "anthill") or spontaneous individual effort (read "anarchy"). The sensible human choice, of course, is to take neither. But something must be put in their place.

We favor enlightened dialogue leading to specific action. But the nation needs social inventions in order to make possible intelligent two-way dialogue now concerning the future we are headed into, the 200 million of us. That's the function of the proposed non-profit situation and outlook centers.

To avoid becoming a planned society, we must become a planning society. It is further suggested that to achieve a planning society, we need a dialogue which assumes the good will of all parties in each situation and calls upon such techniques of factual exposition as the computer, graphic displays, and seminars.30/

Through the ACCESS process, expert, complex and abstract information about the future would become more manageable by society because it would be as close to people as the "region" with which people identify--and oriented to that region. The process would be credible because it would be kept up to date and would be open to, supported, challenged, operated and used by all the special interest groups of a region (as well as business, government and education)--and it would not take sides, but it would explore options. Its examination of alternatives would be more understandable because it would make full use of all means of

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30/Figure and subsequent paragraphs to this footnote edited from Ewald, in Creating the Human Environment, Urbana, University of Illinois Press, 1970, p. 17.

communication, including "interactive graphic telecommunications".

"Interactive" graphic telecommunications means visual, "graphic", displays that are made responsive to questions or statements of the viewer. "Telecommunications" are "any transmission, emission or reception of signs, signals, written images and sounds or intelligence of any nature by wire, radio, visual or other electromagnetic systems including any intervening processing and storage."31/

Modern telecommunications providing for interaction with graphic displays may be the major means to make interdisciplinary regional policy research processes democratic and do-able, even for very large regions.

If we are to manage, conserve and develop the environment, decision-makers and society at large, in a democracy need to recognize the rates, causes, orders of magnitude and complexities of change--and the critical nature and timing of decisions to deal with change. This implies regional policy research, where communities of people consider more deliberately than ever before the long range future consequences of decisions which must also accommodate the present.32/

The center of focus of the ACCESS process is the official decision-maker of government and business. In concentric spheres of influence around the decision maker, the process also includes first his support staff, consultants, boards and commissions; then special interest groups and concerned citizens, and finally, the voters.

Without itself taking sides or making decisions, the ACCESS process for regional policy dialogue

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31/As defined by the Committee on Telecommunications for The National Academy of Engineers, Peter C. Goldmark, Chairman: Communication and the Community, NAE, 1972, p. 143.

32/See Footnote 3.

provides comprehensible information and citizen feedback for the regional policy-makers. The process involves neutral forums for policy dialogue, informed by research, which attempt to understand choices, consequences and their connection to the past, the present and the future environment.

Environment is commonly defined as "surroundings" or "all that surrounds us: the elements of nature (including Man himself) and the elements created by Man, artifacts as well as waste products".33/ In this report, the term environment is used in its broadest possible social and economic, as well as physical, context.

What interests us most is the mutual relationship between organisms (including humans) and their environment. That relationship is the definition of ecology. For human beings this is more than a physiological and psychological matter. "Human ecology" also comprises cultural, social, economical, political and spiritual aspects of environmental relationships.

THE REGIONAL POLICY-MAKER

It can be seen that the term, "regional policy-maker", as used in the ACCESS process, concerned with as broad a definition of environment as given above, is all inclusive. Regional policy-maker includes those who contribute to the formulation of policy as well as those who decide policy. Both are considered part of "policy-making" in the ACCESS process. Therefore, interested citizens, as individuals and as organization members, or voters, are policy-makers--as are corporation directors, educational administrators and government officials, elected or not. That is a substantial expansion of the common use of the term policymaker and contributes significantly to the definition of the ACCESS analysis/synthesis/communication process.

33/International Federation for Housing and Planning Bulletin, June 7, 1971.

Regional decision-making is under real time pressures. Yet, it must attempt to take into account the complexity of interrelationships among many variables, over different geographic scales, at varying increments of time. Simultaneously, it should account for changing technology, and acknowledge the changing expectations of people.

A listing of assumptions about the regional policy-maker may be helpful here; such a person can be described as:

(1) an intelligent, basically honest "generalist";
(2) under political and time pressures to make decisions;
(3) inadequately informed and full of his own questions;
(4) impatient with details, but skeptical of summaries;
(5) able to give only severely restricted time for analysis;
(6) suspicious of computers (and their programmers);
(7) uncertain about typing into a computer terminal;
(8) unable to comprehend, unaided, the interrelationships of many variables;
(9) probably limited in his ability to use maps, charts or graphs;
(10) skeptical about the validity of long-range projections (and expert opinions);
(11) limited in his comprehension of development factors, important to the region, which work at different geographic scales;
(12) only partially informed regarding technology and its impact;
(13) not really convinced that major social and economic changes are underway;
(14) a believer in adaptation, not radical change;
(15) seeking respected authority on which to base his decision.34/

34/See Footnote 29, p. 3.

PERCEPTION AND CREDIBILITY

Different groupings and combinations of people are involved in making policy for a region:

(a) an aggregation of public officials without an established regional political constituency;

(b) businessmen and other administrators with differing short-term concerns, some controlled from outside the region;

(c) citizen-based groups which may or may not be regional in scope, each with different purposes in mind; and

(d) many other competent people, including those in universities and in the professions, who don't yet relate to "region" as important to what they do and how they live.

To exchange concepts, issues, information, analyses, judgments, and feelings about regional issues with these regional policy-makers--in such a way that the basic choices buried in pending current decisions are related to alternative futures--requires more than valid analysis and communication. The process as well as the information it handles must be accepted as credible. A major aspect of the credibility of information, obviously, is its source. But how the perception of information affects credibility is more significant than the scant attention it has been given to date. This is a matter not only of how minds are already "set" when they receive information, but also how information is presented to them. The physiology and psychology of how we see and receive information is important to policy-making.

Information, even if it is accurate, valid and reliable, must be comfortably assimilated by a person, to the point it "feels right", before it becomes credible. It may be that information must become something akin to an "insight" or "intuition" before it leads to

decision. If intuition, in turn, can be defined as subconscious reasoning, then whatever helps that reasoning has a significant effect on credibility.

The important point for the policy-maker--besides the accuracy, validity and reliability of the information, analysis and synthesis provided--is whether it is readily assimilated by him. He probably needs to "sense" as well as to calculate decisions rationally. It can be assumed, however conscientious the effort, that the information and data provided him will almost always be inconclusive. It is especially important therefore, to recognize that information has to "feel right" before he can decide with it. (One needs to feel somewhat more comfortable with one view than with others in order to make a decision at all--except the decision not to decide.)

Ultimately, the policy-maker must leap from the best that can be quantified and reasoned, across what cannot be known, to his position or decision. It's a leap of faith, or what policy analyst Sir Geoffrey Vickers terms "the passions of judgment," (beyond reason alone).

There are many subjective elements in arriving at a decision or a position. The purpose for bringing more of the capacities of science and technology to regional decision-making is to quantify those elements which are quantifiable, to convey analysis and information with credibility, to help synthesize complex problems and to reduce uncertainty.

Recognizing that all alternatives for each issue cannot be explicitly stated and then precisely quantified, there comes recognition of the need for an accurate, credible process that generates and reinforces sound intuitions in the policy-maker. Much of the process we are seeking to invent may evolve in the policy-maker(s) mind(s). Perhaps we should recognize that what we are attempting with visual communications, especially interactive graphic telecommunications, is to establish new capabilities for feeding information to those minds. An example of that "process"

may be how the concept of Spaceship Earth was quickly "sensed" from the Moon photographs taken by the astronauts. An entirely new perspective was grasped. (How puny the words of astronauts compared to the perception of their photographs!)

Non-verbal graphic symbols communicate to many levels simultaneously. Such graphic communications may become a "universal" language for policy-makers, managers, workers, learners and consumers about their region. The same information, used differently by researchers, policy-makers and the general public, may be communicated in the same form, through the same technology, using the same systems.

If people do not understand because they fail to perceive the "whole" of complex systems, because they lack a "perspective of reality," perhaps, by using common graphic symbols, people of a region can perceive more perspectives in common, including the understanding that different people, with the same information, may arrive at different perceptions. If so, then to facilitate the perception of "wholes" will be among the greatest contributions graphic non-verbal communication can make to constructive regional dialogue.35/

INFORMATION, POLICY-MAKING AND DECISION

In a democracy both decision-makers and society at large must be aware of the rates, causes, orders of magnitude, complexities and consequences of change--and the critical nature and timing of decisions to deal with change. In our times this means regional policy making informed by research, where communities of people consider more deliberately than ever before the long range future consequences of decisions which must also accommodate the present.36/

35/this subsection is edited from Ewald, see footnote 29, pp. 4-5.

36/See footnote 3.

Information, policy making and decision are each very big subjects. Information, for instance, is necessary for decision, but systems which improve the supply of information are much easier to describe than systems to improve decisions. It is important to distinguish between these two as Downs has.37/ Knowledge leads to power; the handling of information is fraught with potential political impacts. Present technical possibilities for better information handling to improve the quality of decision will no doubt be realized in time, but only as the user understands that potential, and only as the information is made responsive to him.

> "...(users) are to a great extent unaware of what data can be acquired, how to gain access to the data and how to use it once it is obtained....It cannot be stressed too strongly that we have made great strides in data acquisition but have far to go in data utilization38/...frequently (we) do not understand what characteristics information must have in order to be useful for decision-making."39/

It is very difficult to change the day to day operations of government (or business, or any other large enterprise). Unaided by clear demonstrations of the utility of a government-wide information-handling system, for instance, there will be very few leaders able to take on and win over all departments of a city or county at once. Regardless of the utility and lower cost of the "total" approach, department by department resistance can

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37/Downs, Anthony, Urban Problems and Prospects, Markham Publishing, Chicago, 1970, pp. 251-263.

38/Dr. S. Benedict Levin, ex-Vice President, Earth Satellite Corporation, testimony before the Committee on Aeronautical and Space Science of the U.S. Senate on S.2350 and S.3858 (August 6, 8, 9 and September 18, 1974).

39/Frank G. Zarb, Associate Director, National Resources, Energy and Science, Office of Management and Budget, testimony as above.

be anticipated. And information-handling technology is still improving at a rate that provides a reasonable argument against a city or county-wide application "now".

The ACCESS project in its 3-5 year demonstration stage would afford a demonstration of the relation of governmental departments to a region-wide regional policy information and dialogue system.

There remains also a major question about policy making. How open should it be? And who should decide? "Openness" is desirable as long as it is not perverted to play tricks with a process to avoid decision. "Sunshine" laws can probably go too far, but clandestine and paternalistic sorts of decision making already have. "Black and white" positions on such issues are not, in themselves, reasonable.

> "The best evidence of anthropology, as Franz Boas pointed out, is that the judgment of the masses is sounder than the judgment of the classes on broad questions of policy, where sentiments and values are concerned. This doctrine must not be perverted into a claim for the common man's expertness in technical or artistic matters."40/

The balance of people and expertise is at issue. The reasoned view in these times is more often "both/and" rather than "either/or". The ACCESS process, employing visualized regional policy dialogue, facilitates the "both/and" approach.

At least as important as the accuracy and timeliness of the information required for regional policy making today is whether it is understood and believed. Confidence in the objectivity of the organization that manages the information process itself is a vital aspect of that information. The ACCESS design proposes a non-profit organization constituted by and responsive

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40/Kluckholn, Clyde, Mirror for Man, New York, Faucett World Library, A Premier Book, 1960, p. 197.

to the many different interest groups of a region to finance, staff and direct the ACCESS process.

DESIGN THROUGH ACTION/RESEARCH

Design of the ACCESS process is to be found, in part, only in the doing. The ACCESS project as research, therefore, has confounded more than a few. Real issues, people, experiences and circumstances of the region selected are in themselves important parts of the project, and the means for refining the design for the ACCESS process. Obviously, they cannot be "controlled variables" as is true in physical and natural science research. The ACCESS project is, and must remain open to, and involve, a broad spectrum of interest groups, each contending differently with the changing and conflicting realities of the region. It cannot know in advance precisely "how" to go about the design it is involving the people of the region in creating. The "how" is actually a major part of what the project is attempting to explore and learn.

As an action/research project ACCESS has been neither "action" the way local civic organizations or city councils think of the term, nor is it traditional "research". To many traditional scientists ACCESS may look suspiciously like a demonstration project. "Demonstration" happens to be the appeal of ACCESS to most mission-oriented federal agencies. They seek specific "demonstrations" to provide solutions to problems leading to direct application nationwide.

To combine action with research, people and technology, society with science (and each of these with each of the others at the regional level) in these fast-changing times, requires not only precise but many different kinds of knowledge. The ACCESS project asserts that the opportunity needs to be created to study means to work that knowledge into specific issue resolution with "wisdom". "Wisdom", as it is conventionally defined, is seen as more likely to occur through regional policy dialogue. Such dialogue must recognize

and facilitate the potential for different contributions from many different people for self-government by enlightened citizens.

An impediment to NSF continuation with the ACCESS project is the "action/research/demonstration" character of ACCESS research. The ACCESS project approach, while rigorous, and open to evaluation, is interdisciplinary and it is not orthodox "scientific method." This has made it difficult to review and fund ACCESS from the start. Even though the National Science Foundation, in its RANN program, has the primary national charge for the relatively unknown business of learning how to apply science to civilian human affairs, the traditional basic scientific research orientation of its review process makes this difficult.

> "We claim we live in a scientific era, but the truth is that, as presently managed, the scientific enterprise is too lopsided to allow science to be of much use in the conduct of human affairs. Scientists shy away from the problems posed by human life because these are not readily amenable to study by the orthodox methods of the natural sciences."41/

Similarly, the people of a region must have practical demonstrations, in the early stages of an ACCESS-like project, to warrant their continued cooperation and future support. What will they accept as "practical" (that is still a bona fide innovation, with its attendant high cost when high-skill technology is involved)? As to federal agencies, their requirements for demonstrations are often so narrowly constrained by Congress that the relationship of functions attended by different agencies is slighted. Or jurisdiction over a function can be so rigidly specified by current realities that even innovative one-time explorations may be difficult to support.

41/Dubos, Rene. So Human an Animal, New York, Charles Scribner and Sons, 1968, p. 216.

ACCESS Research

BASIC ELEMENTS	QUESTIONS TO BE ANSWERED
1. People	Who is to be involved, to design, construct, and use the ACCESS process?
2. Policy Questions	What are the important policy questions, regardless of what specific regional policy issue is being examined?
3. Interrelationships	What is the relation of ACCESS to other institutions in the region and to such processes as federal, state and local government?
4. Social Processes	What are the social process options available and used to address and communicate about the important policy questions?
5. Intellectual Tools	What are the intellectual tools available and used to address the policy questions?
6. Technological Tools	What are the technological tools available and used to address and communicate about the important policy questions?
7. Institution-Organization	What is the institution for the ACCESS process, its bylaws, organization and membership?
8. Resources	What are the resources needed to operate the institution and process, for example, funds, staff and facilities?
9. Evaluation	What are the methods and criteria for evaluating ACCESS' policies, actions, impacts and design?
10. Utilization	What are the means for using the products produced by the ACCESS process, within and outside the region?

Design Matrix

DESIGN PHASE ACTIVITY			NEXT STEPS	
work	products	status	1 yr pilot	3-5 yr test
survey and invitation	diverse, skilled persons involved	ACCESS concept not widely understood, but becoming known, assimilated	surveys and community involvement to be deepened	ACCESS staff, expert roster, leadership to be established
regional policy, information functions defined	two regional test issues selected, basis of prototype analysis and presentation set	study of alternatives established as policy	basic policy questions to be defined, tested	means to pick policy issues for regional study to be set
local and federal agency discussion, group study	liason persons identified, involved	informal relationships established	formal interest of government, university, institutions to be tested	basic formal working relations to be established
media, meetings, study, dialogue, survey	publicity, ACCESS organization	policy dialogue procedures defined	involvement and impact of process to be tested	outreach, education and research transfer techniques to be refined
surveys, workshops, consultant and group study	computer programs, survey, data needs identified for Pilot Test	subcontracted work for Pilot Test specified	geo-based data, bibliography of sources, other tools to be defined or studied	region-wide system, data base, projections, programs, etc to be tested
computer polling sampled; cable TV/computer compatibility established	Regional Situation Room defined, sited, initiated	equipment for Pilot Test selected	tools tested, interactive system to be selected	interactive system tools to be tested
diverse sponsors and membership	80 person organization; 29 Advisory Board, 9 Executive Committee	basis established for incorporation	ACCESS project assimilated into Community Arts Assn. (Inc.1923)	corporate form, relation to university to be finalized
ASLAF and local support realized, NSF support doubled	basic objectives of initial grant for Design Phase realized	federal support broadened considerably	university as applicant, federal lead agency and support established	basis for sustained public, private utility, education service charge support to be tested
site visits, national evaluation, peer review	favorable evaluation, broad government support	national significance of study area established	policy, program, operations, audio-visual communication to be evaluated	cost-benefit, scale, scope, operations, system impact to be evaluated
TV, Washington, national conference, NSF & other federal agency presentations	audio-visual and published reports	reports and films suitable for reproduction	nationwide distribution to be sought	ACCESS process to be adopted as Bi-centennial Era prototype; other

THE DESIGN TO DATE

Regional policy making concerning the conservation and development of the environment is complex, difficult, important--and in need of improvement. Progress is being made in managing the environment in different places throughout the country, including in Santa Barbara County, but there are few who would claim they had mastered environmental management, policy research and citizen involvement.

Purpose

The purpose of the ACCESS project is to design and test a new process for considering regional issues and options which would be applicable to other areas of the nation, as well as to the South Coast Region of Santa Barbara County. (The South Coast Region, 10 x 60 miles, 163,000 people, is a small example of typical regions and their processes.)

Issues include conservation and development of the region and its people in the overall context of Quality of Life, as defined in the region:

- Work and Recreation
- Health and Education
- Energy and Environment
- Water Supply and Land Use
- Transportation and Communication
- Population Growth and Distribution

The ACCESS project involves the use, where appropriate, of science and technology to help study and communicate about regional issues and options. In the ACCESS process being designed, science and technology are regarded as means to help solve problems in regional decision-making rather than as ends in themselves. It is anticipated that the results of a number of recent federally sponsored research projects, as yet little used, would be

tested and incorporated into the ACCESS process, beginning with the ACCESS Pilot Test.

The ACCESS project is especially concerned to establish the competence and credibility of the process itself and is keenly aware of the contribution of communication to that end. Interactive graphic telecommunication is an essential component of the ACCESS process (along with all visual media--models, aerial photography, graphs, etc.).

The importance of visual communication to the design of the ACCESS process is in the fact that visual communication has a capability to deal with concepts, abstractions and multiple relationships, across different knowledge bases, in ways that can open the way to more creative understanding, involvement and resolution of complex problems.

The ACCESS project is concerned with designing means to make complexity comprehensible. For the purposes of policy makers, including public participants, this is believed to entail visual communication by means of color, pattern, motion, and sound enhanced by its being responsive to queries and statements of the user.

While not contending that "the medium is the message", the ACCESS project does take a stand that in these fast-moving times, without the correct medium there may be no adequate message. Complexity, interrelatedness, expectations, rate of change--and the desire to affect change, combine to suggest that the stress today on resources, environment and on people call for some breakthroughs in communication applications. Fortunately the technology needed for regional policy-making is at hand. However, it is in need of selection, combination, refinement, and test applications.42/

42/See Footnote 29.

Characteristics

The characteristics of the ACCESS process, when fully designed and implemented, can be stated as:

(1) Regional in scope;

(2) Based in the voluntary association sector;

(3) Informed by research;

(4) Making relevant use of appropriate science and technology;

(5) Equipped with a "Regional Situation Room" with the capacity for information processing and graphic display that is interactive;

(6) A means to focus the information, education, research and organization resources of a region to study and communicate about regional problems and options;

(7) The capacity to pose alternatives and trace the possible future consequences of current actions, events or decisions;

(8) An open, interactive process that involves policy-makers, including interested citizens, all elements of the public, and a wide range of organizational resources in the region;

(9) Feedback by means of which citizens may communicate with policy-makers concerning regional policy problems and options while remaining neutral itself;

(10) A means by which relevant NSF and other agency research can be applied;

(11) A way to solve regional problems by means of improved perceptions and consensus about regional issues and at the same time, to strengthen freedom and self government.

(12) A neutral forum for dialogue that does <u>not</u> take sides or implement policy.

TEN BASIC DESIGN ELEMENTS

A significant part of the work of the Design Phase was the isolation and definition of the ten basic elements of the ACCESS process. (It may be helpful at this point to refer to the diagram depicting the Evolution of the ACCESS Concept [pages 30-31].) These ten elements have become the context and structure for both the one year Pilot Test and the 3-5 year Region-wide System Research Demonstration and Verification. The extent of community interface and the context of ACCESS research is given in the ACCESS Research Design Matrix, page 56. What follows here is a discussion of that chart.

(1) People

People are the most important, dynamic and pervasive of the ten basic ACCESS elements. People as "uncontrolled variables" enormously complicate the research design, but that is the nature of the ACCESS process and the difficulty of this sort of applied research.

Who is to design, construct and use the ACCESS process? Who will select issues, define options and consequences and approve their presentation? What people of scientific and professional expertise; what decision makers, citizens, educators, spokesmen for various points of view and differing interests are to be involved to use research, appraise options, facilitate technological assessment and technology transfer?

Design Phase. The ACCESS project has been cited by experienced local community leaders as the most diverse assembly of people and cababilities in the South Coast Region. This diversity is a requirement of interdisciplinary regional policy research and a necessity if its work is to be credible. At the Design Stage this broad an involvement without "practical demonstration" has served only to introduce the concept in the region. It cannot be said it is well understood.

Pilot Test. A separate group of citizens will be organized from the region to help define each

policy alternative for the two pilot issues selected. The expertise required for assembling and presenting these alternatives will be subcontracted to the Forest Service and the University of California, subject to citizen guidance. During this period the survey to develop a machine readable roster of skilled and experienced people will be continued.

System Test. The 3-5 year system test will provide the continuity required to select and train staff, to identify strong leaders and educators and to develop skill and experience rosters and liason with special groups and hard-to-reach minorities.

(2) Policy Questions

For each regional issue study there are basic policy questions to answer. The emphasis, specifics and detail, or difficulty of analysis and presentation for any given issue will vary, but it is possible to address each issue with a standard set of questions.

What is the problem? What are its causes? What are the options (goals and means) for coping with the problem? With regard to the options: What are the impacts; problems of and principles for implementation; conditions for success; costs and benefits; criteria for evaluation; trade-offs; priority; and recommendation?

Design Phase. Through a series of deductive work sessions the diverse membership of ACCESS established the function and the issues which seemed most appropriate for an initial demonstration of ACCESS process capabilities. The function selected was for ACCESS to serve as a neutral regional forum. The issues it selected to examine for options and long term consequences were: 1) fuel breaks in the Santa Ynez Mountains, and 2) the impact of water quality and quantity on land use.

Pilot Test. The first basic policy to be demonstrated is that the ACCESS process can without bias, identify and communicate policy choices and consequences of selected regional issues. The experience of this practical test is itself expected to help clarify and refine the set of basic policy questions that will make the ACCESS process operative.

System Test. The issues which the regional forum will examine are in themselves a potential source of bias. (A region-wide accepted procedure for selecting study issues, such as ballot initiatives or referenda will be established for the System Test. At that time other functions such as secondary or adult environmental education and an information clearing house may be tested as well.)

(3) Interrelationships

The ACCESS project admits the complexity of reality. This requires that relations be developed with institutions and sources of decision and information at the federal, state and local level. The acknowledgment of real and vital interrelationships is a basic means by which the total context of any given policy question can most readily be identified. For instance, certain issues can be resolved at the local level while others are matters for national decision (which may be influenced with competent regional analysis and presentation). Also the context of certain issues may be more economic than aesthetic, or conversely, but both are involved, etc.

The ACCESS process intends to assemble and make available skills and tools that no one existing institution can afford or appropriately operate. In that ACCESS takes no policy decisions itself, nor attempts to implement any, it should be able to sustain relations with diverse groups. These groups may themselves be continually combining in coalitions, often temporarily, regarding a specific issue.

Design Phase. The acceptance of the ACCESS project to date has been for its theory of the contribution of communication, involvement, education, and feedback to general planning and policy-making. Locally and nationally, agency presentations, discussions and study have served to provide official letters or resolutions of support and to establish liason persons and tentative discussions of future involvement.

Pilot Test. From these informal beginnings, formal interest and specific offers of support have grown, especially within federal agencies which recognize in the ACCESS project a potential approach for research and learning in some of their toughest problem areas--credibility, involvement, rational

understanding. Research into the presentation of issues is underfunded. The ACCESS process is now ready for testing on a pilot basis with the University of California as applicant and a consortium of federal agencies with related missions as funders and users of ACCESS project research. The community-university-federal agency relationship is the core of the national prototype ACCESS is intended to become.

System Test. From the Pilot Test it will be possible to define and formalize relationships, services, financing sources regarding federal state and local government--and with education and business.

(4) Social Processes

"Social Processes" are the methods by which people of the region are involved in addressing important policy questions. This includes such factors as duration, sequence and organization of the activities for the dialogue; number and roles of the individuals involved; geographic scope; and remoteness of the issue addressed in terms of time, space and level of abstraction.

Who and how many individuals are involved? In what way? What activities do they perform? How are the individuals and activities organized?

Design Phase. First, a score of diverse regional institutions were committed as sponsors. Then the ACCESS ad hoc committee identified individuals whose primary work became the business of contributing to the study group which they had joined. This interest was sustained by the satisfactions of involvement and ultimately led to the recognition of the establishment of an ACCESS organization and its policy dialogue function.

Pilot Test. Work on the issues selected for pilot study will demonstrate the capability of the process to a) identify and involve local leaders with experience and expertise related to specific regional issues and b) make a valuable contribution to the education of individuals and to improving regional policy decisions.

System Test. Having "indicated" by the Pilot Test the potential of the ACCESS process. the work of the System Test will be to examine, test and refine the ability of ACCESS to provide practical services, learning experience and research as they relate to the "Quality of Life" in the region.

(5) Intellectual Tools

The uncertainty and complexity involved in regional issues call for an awareness, skill and selection of the appropriate "intellectual tools" to help address basic policy questions. These tools include, for example: trend extrapolation; use of expert opinion; Delphi; relevance trees; scenario writing; checklists; PERT charts; cost benefit, cost effectiveness, risk and sensitivity analysis; historical analogy; model building, gaming and simulation; decision theory; decision trees; matrices; cross-impact analysis; networks; morphological analysis; statistical correlation; planning, programming and budgeting systems; and management by objectives.

Design Phase. Traditional survey, workshops, consultant, staff and group study were the means by which the intellectual tools for the Pilot Test were identified. Data availability for instance, was a determinant of the test issues selected. University and other experts helped identify the computer program techniques for research presentation.

Pilot Test. The number of intellectual tools to be employed will be expanded, and described as they are used to examine the Pilot Test issues. Further, the Pilot Test will establish the principles and technique for the geo-data base and the compilation of a machine readable bibliography of data sources for the region. An initial cost-benefit study of region wide systems proposed will be attempted.

System Test. The definition, ordering, development and application of a whole range of tools will be possible within the continuity of the 3-5 year Regionwide System Test. These would include an accessible interactive data base, simulation, feedback and more.

(6) Technological Tools

Technological tools useful to synthesize and display issues and options include: maps and physical models; aerial photography and satellite imagery; gaming and simulation; computer modeling--involving the use of interactive computer graphics; citizen polling and feedback systems and broadcast and cable television.

Telecommunications are important to the analysis, accessibility and comprehension of regional policy data. The data will be experienced first in visualized dialogue in the Regional Situation Room (described in the subsection that follows). Ultimately, coaxial cable television will help provide the capability to study and communicate about regional problems and options, and to obtain feedback and stimulate discussion throughout the region.

Design Phase. With the assistance of consultants the project established the feasibility of computer polling to stimulate dialogue, of making computer graphics compatible with two-way coaxial cable television in the region, and defining the Regional Situation Room concept. Even implemented with traditional equipment, the Situation Room was crucial to the completion of the Design Phase as planned. The equipment required for the Regional Situation Room for the Pilot Test was selected (see p. 100) as well as that to be used in creating the alternatives.

Pilot Test. The presentation of chosen options and their consequences, for each policy issue, will incorporate the use of computer assisted graphics. During this test the technological tools to be used in the 3-5 year System Test will be determined.

System Test. The pilot test will determine the extent of an interactive region-wide system for graphic telecommunications using coaxial television. The research and demonstrations to test it will be carried out in the System Test.

(7) Institution - Organization

A claim of the ACCESS concept is that as the long range consequences of sensitive regional policy issues are more clearly understood and more broadly communicated, challenges of credibility will increase in importance. The credibility of the organization that manages the process which studies and communicates about the future "Quality of Life" in the region will greatly affect its utility. If the process is to function as intended, there must be community acceptance of both the competence and the objectivity of that organization.

Design Phase. To assure the region of the integrity of the ACCESS project, widespread and diverse involvement was sought from the outset. Sponsors and participants, both chosen and self-selected, contributed to the project, and funds were managed through a national professional society foundation, The American Society of Landscape Architects Foundation.

Those who were particularly concerned with the management of the ACCESS process joined the study group on organization in May 1974, and examined alternative organizational forms, including existing institutions in the region.

Once the functions and requirements of the ACCESS process were clarified, the 80-100 members, organized in six study groups, established a 29 person Advisory Board with a 9 person Executive Committee. A subcommittee reported to the Board on the sort of broadly representative non-profit corporation that seemed most appropriate.

Pilot Test. As it has developed, the University of California, Santa Barbara will take responsibility for the ACCESS project Pilot Test. Coordination of the University's study and research with the region, and the involvement of policymakers will be managed through the venerable Community Arts Association, incorporated as a non-profit citizen's organization in 1923.

System Test. The investigation of the ACCESS process, having been soundly based in the community during the Pilot Test, will be further refined and formalized. By the close of this stage a competent staff should be trained and experienced enough to take over from the Principal Investigator.

(8) Resources

Resources, as defined here, include the staff, participants, funds and facilities required for the ACCESS process. Meaningful local involvement in the project from the outset was considered essential if the ACCESS concept was to "take hold" and be adapted to the region, as well as to provide evidence to NSF of the region's genuine interest. By June 1973, broad regional support for the Principal Investigator's concept was evidenced by the diverse sources of the $12,000 that was committed. NSF awarded $67,500 in January 1974.

Design Phase. The timing of the NSF award contributed considerably to the delay and resource requirements of getting underway. The presence and mode of operation of the ACCESS project was dramatized by opening its public efforts with the Regional Situation Room. With additional local in-kind resources, and a doubling of NSF funds through supplemental grants, the objectives set for the Design Phase were realized. During this time, briefings made by the Principal Investigator included representatives not only of various departments of NSF but many federal agencies. These introductions to the ACCESS concept paved the way for presentations which were made in 1975 to each federal department.

Pilot Test. The shift of the ACCESS project's broad sponsorship from the Research Applied to National Needs (RANN) program of NSF to the Department of Environmental Education in the Department of Health, Education and Welfare has maintained federal agency interest in and financing of the ACCESS project. Local funds are not being sought in this stage, which is intended

as a national demonstration of the ACCESS concept rather than as an immediate resolution of a local problem.)

System Test. Given the national recognition of the ACCESS project, its successful operation during the Pilot Test is intended to locate the national, state and local support required to sustain a 3-5 year Region-wide System Demonstration and Verification. The basis for sustained public, private, utility and education support (and fees charged) will depend on the feasibility and scope of services provided.

(9) Evaluation

To rigorously examine policies, actions, impacts and design of the ACCESS process requires documentation, close monitoring, wise judgment and the sophisticated application of evaluative research. Validation of the ACCESS process will involve quite different methods and criteria than those common to the natural and physical sciences. The nature of ACCESS as a research project has been implied by its avoidance of the term "experiment." Experiment implies control of variables, or the use of a control group in research design, that is simply not possible for the ACCESS sort of complex, applied social science research project.

Instead, the term "national prototype" has been used to describe the ACCESS research. Rigorous examination of the project by recognized experts who understand the purpose of the project, yet are independent of it, has been an integral part of its research design to date.

Design Phase. During the Design Phase the NSF program manager visited the ACCESS project three times, a team was sent by NSF to examine the project in June 1974 before the first supplemental grant was approved, and in July 1974, the mid-project national evaluation took place in Santa Barbara. All these, and the sum of the peer reviews of the NSF application for the Pilot Test

recognized the significance of the national problem that the ACCESS project confronts.

During this time the broadening of federal agency interest and the sustaining of local support was itself a form of evaluation.

Pilot Test. Evaluation during the Pilot Test has been designed to promote an independent assessment of the workability of the ACCESS concept with respect to the elements that are involved in the pilot issues. A student control group, specialized (fuel break and water) knowledge group and the public that is involved will be surveyed. In addition, responses and interactions of persons taking part in the ACCESS process will be monitored for the extent to which issues are narrowed or broadened, the intensity of feelings and the degree of polarization. This evaluation is to be conducted by researchers of the University of California, Santa Barbara, not involved in the development of the ACCESS project.

System Test. The 3-5 year span of the System Test will permit sophisticated use of evaluative research not possible during the one year Pilot Test. The impact of various modes of visual communication and interaction through graphic telecommunication will be measured and cost-benefit studies of services provided. User evaluation within the region will be an important part of the test leading to a matching of the scope of services to the scale of region.

(10) Utilization

Utilization refers to the transfer of the perspective, process or products produced by the ACCESS project. A major factor of utilization is simply that understanding of the project, and what it has learned be widely disseminated. Another major factor is to structure the research itself so that it has the potential of wide application.

The South Coast Region of Santa Barbara County has been identified as both unique and typical of other regions. It is unique in its small scale combined with being rich in interest, research capabilities and facilities. It is typical in

the content, entities, and manner in which policy making for the region is undertaken. Research which the ACCESS project undertakes is structured for maximum utilization elsewhere.

Design Phase. Briefings to NSF and other federal agencies, national conferences, reports and television production have documented and begun the dissemination of the work of the ACCESS project. These reports are suitable for reproduction and national distribution.

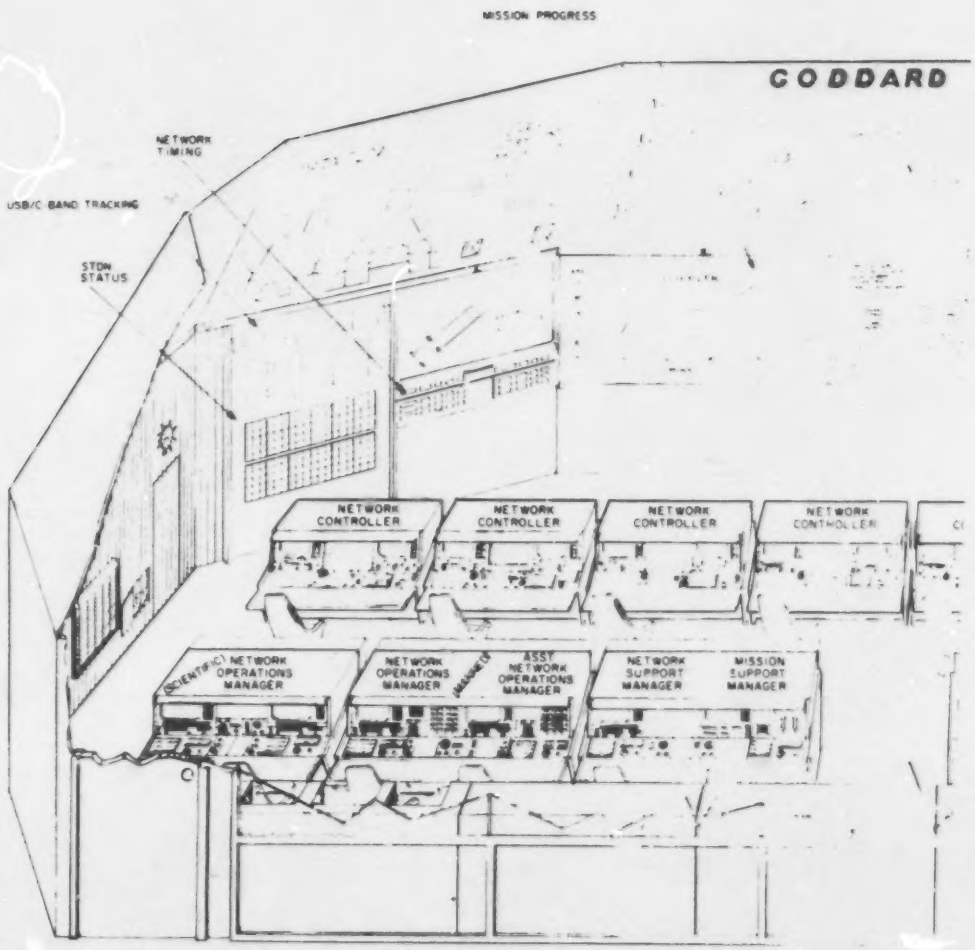
The project approached the design of the ACCESS process and the subsequent Pilot Test as a potential "standard" from which all regions could learn. While this approach was not expedient to winning local support it has helped assure the transferability of what is learned through the ACCESS project.

Pilot Test. Both ACCESS members and mid-project national evaluators agreed that a Pilot Test was a necessary prelude to a 3-5 year System Test. There was need for evidence within the region of how the ACCESS process worked in order to determine whether it would be used. The two test issues selected will be carried out, and the visual presentations of alternatives provided, in a manner that shows the process is indeed transferable--to other issues and to other regions.

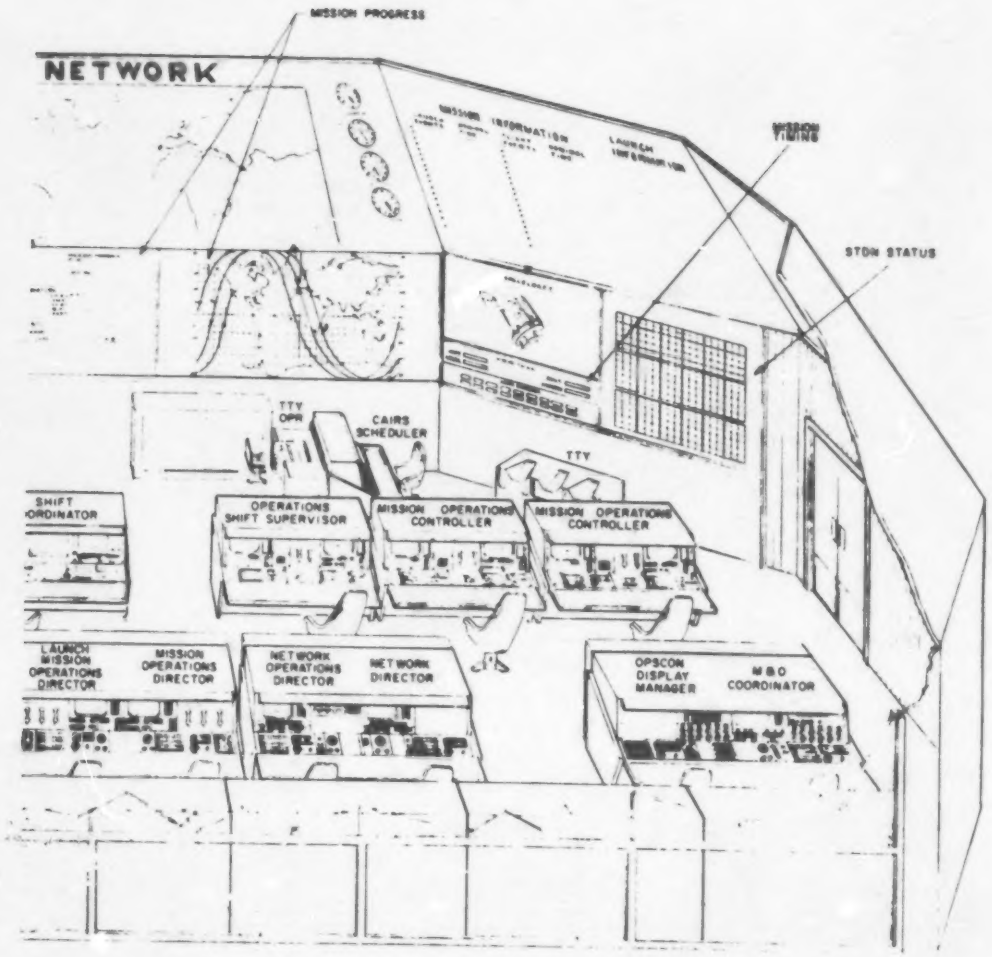
System Test. The 3-5 year System Test would vastly expand national dissemination begun during the Design Phase and made more explicit in the Pilot Test. By that time, visual productions would become a routine output of the project and the relation to federal, state and local agency programs established. ACCESS, as a national prototype of citizen involvement and policymaking for the future could help provide an example, during the Bicentennial Era, of how citizens and regions of the United States can solve the problems which confront them while at the same time, they protect and strengthen freedom and representative self-government.

THE REGIONAL SITUATION ROOM

A major component of the ACCESS process and focus of its research is the "Regional Situation Room."



NASA FORERUNNER OF THE REGIONAL SITUATION ROOM Data, missions and orbits of all NASA unmanned satellites are managed from the Goddard Space Flight Center, Maryland. The volume and



display of information in the NASA Operations Control Center suggest information-handling capabilities to facilitate regional policy making. (drawing by NASA)

The Regional Situation Room is a facility which provides a new means for science and technology to make their contribution to public policy making. It is a direct descendent of and combines elements of the New England town meeting and NASA's Command and Contral Centers.

Definition A "Situation Room" is a physical location in which problems, trends, options and the results of policy-related research can be displayed graphically in a form which decision-makers, including the public, can more readily see, comprehend, interact with and discuss.

Uses The uses of a Regional Situation Room are:

(a) to monitor the flow of information relevant to ongoing basic planning activities and systematically to collect and disseminate that information which is particularly important to informed public discussions of major issues;

(b) to establish neutral forums for policy dialogue and graphic communication of complex policy problems and options;

(c) to synthesize, analyze and communicate problems and options, including costs, benefits, and risks;

(d) to make available a means whereby citizens and policy-makers can more easily and intuitively see and understand the critical elements and interactions of large complex problems and to obtain a sense of the degree of ignorance and uncertainty concerning such problems;

(e) to enable individuals who are in potential conflict to focus on the problem "out there" displayed through the use of various graphic techniques;

(f) to provide a means to develop better perceptions and consensus on problems and options, and through the process of dialogue, to develop shared values, increased trust and agreement about desirable choices.

(g) to design procedures which will promote broad public discussion of issues and ensure that citizens' views will be more frequently and seriously considered by policymakers;

(h) to strengthen long-range regional planning, emphasizing the need to take into account the future consequences of present actions and policies;

(i) to stimulate the creation of new forms of planning action where traditional techniques have proven insufficient to cope with the special problems and pressures of radical economic and social change; and

(j) to use and experiment with the vast possibilities of the new information collection, analysis and display technologies, for example, remote sensing, photogrammetry, computer generated graphics, simulation, and gaming.

Principles If Regional Situation Rooms are to contribute, via policy dialogue, to improved understanding and consensus, principles for their use should include:

- Graphic techniques to display problems, options and impacts;

- Dialogue based on reasoned argument and evidence;

- Presentation of a range of alternative future long term states of the environment and society;

- Stated impacts of trends, problems, and options made as objectively as possible;

- Attempt to state the probability of occurrence connected with any impact or trend, and the degree of ignorance and uncertainty associated with any factual statement;

- Agreement among proponents of varying viewpoints on the accuracy of the portrayal of their position;

- Presentations from individuals representing a

range of points of view. (The Regional Situation Room should not become a propaganda tool for any one group or policy option.)

NASA's operations control centers, and its much simpler but vital conference room installations, come the closest to providing a "Regional Situation Room" prototype. NASA's need for simultaneously managing the "real time" operations of scores of satellites has caused it to develop techniques which suggest how "real time" access to complex data and information bases can be developed.

Making policy for regions is not the same as making decisions in NASA, but there is a similarity to be found in the need to know--a lot--from many sources, accurately and quickly.

During any given year, regional policy-makers are concerned with reports, budgets and projects that total hundreds of items. Any of these matters may be dropped or picked up several times during the year.

Policy-makers never have enough time for total comprehension of their subject matter. They need whatever facility can be provided to reduce the likelihood of resorting to over-simplification in order to reach any decision at all. The cumulative negative effect of decisions so made is evident in the environment all around us. But there is a limit to the time decision-makers can devote to each issue. And there is a limit to the policy formulation and staff analysis that is possible. Still, the necessity for decision persists.

IV. Design Phase

IV. DESIGN PHASE

Following specific regional commitments made in June 1973, the ACCESS Project Design Phase was funded January 15, 1974, by the Office of Exploratory Research and Problem Assessment in NSF/RANN with a grant of $67,500. Ultimately $12,000 in local contributions and $5,600 of in-kind support came from the governments and 25 diverse individuals and institutions of the South Coast Region of Santa Barbara County, California. Three subsequent grants by NSF have raised NSF support to a total of $132,300.

This section of the report describes the evolution of the ACCESS project, its accomplishments and the lessons to be learned from it to date.

EVOLUTION OF THE ACCESS PROJECT

ACCESS as a project has been developed in the South Coast Region in large measure because of the region's long history of effective citizen action to protect its environment. While the concept for the ACCESS process evolved from the Principal Investigator's professional experience, it has developed to its present state because of the South Coast Region. Putting the concept together with the region's experience has been the work of the project.

The ACCESS project "Regional Situation Room", further, has similarities to Harold Lasswell's "Social Planetarium" and "Decision Seminars". There is even possibly a subliminal debt owed to Dr. Lasswell's earlier experience43/, although the ACCESS concept did evolve separately. Recognition of this prior experience led to the selection of Harold Lasswell as chairman of the ACCESS national evaluation team in July 1974.

43/Harold D. Lasswell, Professor Emeritus of Law and Political Science, Yale University, wrote in the 1930's about "decision seminars", (defined in Gary Brewer's "Dealing with Complex Social Problems: The Potential of the 'Decision Seminars'", RAND, 1972, as organized "for context-specific, disciplined, integration of diverse perspectives and purposes to solve problems".)

ACCESS first became the acronym for the South Coast Region project in an early 1973 press release that detailed the concept and the reasons for selecting the region.44/ Earlier examples of ways to explain important factors of policy making with graphics are evident in work of the Principal Investigator since 1946. Among the most directly related prior experience were studies for Winthrop Rockefeller's Arkansas Industrial Development Commission (1958); Governor Nelson R. Rockefeller's Office for Regional Development (1964); President John F. Kennedy's Appalachian Institute Committee (1964).45/ Also the national consultation on THE NEXT FIFTY YEARS, the Future Environment of a Democracy (1966-1970) addressed head-on the potential conflict of technology and society and specifically addressed the possible involvement of the non-profit institutions in helping to resolve this conflict.46/

The first mention of the South Coast Region as the site for a national explorative test of a new process to improve regional policy making was at the Edison Electric Institute conference in Santa Barbara, January 27-29, 1972. Fifty invited persons representing the viewpoints of business, government, research, foundations, environmental and other institutions met with 25 utility executives to critique the Principal Investigator's paper which suggested the "ACCESS Process".47/

The evolution of the ACCESS concept into a funded project from that point has already been summarized in

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44/Santa Barbara News Press, February 25, 1973.

45/The Arkansas Encyclopedia, Little Rock, AIDC, 1958; CHANGE/CHALLENGE/RESPONSE - A 60 Year Development Policy for New York State; Albany, 1964; Report of the Appalachian Institute Committee, Washington, EDA, 1964.

46/See Footnote 5, especially Environment and Policy, pp. 446-453.

47/See Footnote 3.

Section II, SUMMARY, p. 27. Next it may be useful to state more specifically the reasons for selecting the South Coast Region for the project, the issues in the region, and ACCESS project activities during the Design Phase.

CHARACTERISTICS OF THE SOUTH COAST REGION

The South Coast Region of Santa Barbara County, California is a very small region that is particularly rich in environmental concerns, institutional resources and articulated perceptions. A manageable exploration in this region has the potential of achievement more quickly and economically than in the large scale regions in which the process being studied might ultimately be applied.

After the oil spills of 1969, experienced South Coast Region citizens helped bring the nation to a new awareness of threats to the environment. They seemed, therefore, to offer an exceptional opportunity to demonstrate how science and technology, in the hands of local government and citizens, can be used to implement further a conservation ethic uncommon to the world. The mini-region which was proposed as this possibility is an area 10 x 60 miles, from the Ventura County line at Rincon Point to Point Conception; from the ridge of the Santa Ynez Mountains out into the Santa Barbara Channel; centered on the City of Santa Barbara. This South Coast Region of 163,000 people, various incorporations, water districts and school districts, has certain advantages as the locale for an exploration to improve regional policy making:48/

(1) The mountains and the sea define the area clearly, making it easily understandable as a "region";

(2) There is a tradition of active, organized,

48/See Footnote 28, pp. 21-25.

local citizen leadership, probably much more so than in most other places. (Since this experimental effort would be in a major way a communication test, it is an especially critical asset to have many different organizations through which to involve people);

(3) The region already has in its focus the basic national issues of transportation, water, energy, growth;

(4) The area, the population, the number of public jurisdictions, and settlements are large enough to serve as a regional model, but not so large as to be unmanageable for a research-dialogue demonstration;

(5) The region (600 square miles) is all within one county, (2,700 square miles, with 163,000 of the county's 283,000 population--with a competent, traditional county government);

(6) Except for water supply and recreation, and the attention of county supervisors to all parts of the county, the South Coast Region may be as close to being a small free-standing region as could be hoped for study purposes--yet it is threatened by the growth of Los Angeles;

(7) The famous oil spills in the Santa Barbara Channel make the Santa Barbara location a catalyst for:

(a) widespread, quick communication of experience and innovation successes of the proposed ACCESS research-dialogue process;

(b) attracting substantial outside study funds;

(8) Environmental initiatives and programs of fundamental concern to the proposed process include: local water rationing; dispute over connection to the state aqueduct; the turn to a "controlled growth" philosophy; the new Coastal Zone Conservation Commission

established by state referendum; the Friends of Mammoth decision (resulting in California's requirement for environmental impact evaluation of private as well as public developments); the Serrano decision of 1970 (which prohibits the support for education per child to vary by district and has important national implications for other governmental functions and taxing); The Brown Act (which is perhaps the strongest state access to public information law in the U.S.); and continuing attention to oil drilling in the Channel.

(9) The region has a regional consciousness not typical of major metropolitan areas, and it is without their severe racial strife. This should permit more whole-hearted concentration on the evolution of the analysis/communication techniques of the ACCESS process.

(10) The region has the additional advantage of being physically close enough to draw from several important National Science Foundation environmental research projects and is in a state which offers a wealth of scientific and professional experience.

(11) The region has significant computer and environmental program capacities available to it through the University of California at Santa Barbara (UCSB), and in private industry.

(12) The presence of the Center for the Study of Democratic Institutions has developed a cadre of interested people who are a unique resource to this project.

(13) The region is in a state especially conscious and concerned with environment and its own definition of Quality of Life.

(14) Significant coaxial cable television capability exists; 62% of the homes in the coastal area are already connected, the deepest penetration in the United States and the tenth largest cable system. There will be two-way capability in the region in 1976, and at a

later stage, the entire county could be brought in by microwave over the mountain.

(15) Perhaps 80% of the circulation area of the Pulitzer Prize-winning Santa Barbara News-Press is within the South Coast Region;

(16) The Continuing Education Division of the Santa Barbara City College is one of the most experienced and used in the United States;

(17) The information base is the best it has been in recent years. Recent revisions have brought up to date: The County General Plan, mass transportation proposals, Coastal Zone Commission plans and regulations, water supply studies, Santa Barbara City downtown redevelopment proposals and Los Padres National Forest surveys.

It is recognized that exceptionally competent efforts have been and are being supported by Santa Barbarans to plan and defend their environment, especially when Santa Barbara is compared to many other places. The process proposed is intended to enhance presently organized efforts by providing a more effective forum and a shared new competence to address and communicate about regional issues.

REGIONAL ISSUES AND THE ACCESS PROJECT

Complex, controversial issues are the center of public discourse of the South Coast Region of Santa Barbara County, for example: environmental protection; land use; population growth; governmental structure; allocation of scarce resources (e.g. water); exploitation of natural resources (oil); energy; and education. It is obvious that these are also issues nationwide. But there are probably few areas of the country where they are so much in the public mind, or where they provoke such intense reaction. Historically, and with particular vitality since the region's population explosion of the 1960's and the channel oil spill of 1969, the citizens of the South Coast have sustained their tradition of interest in preserving the physical, social, and cultural characteristics which constitute the Region's distinct Quality of Life.

In its Design Phase, the ACCESS project reviewed five recent public opinion studies of citizen concern in the region.49/ The natural environment appears repeatedly in these 1974 studies, either as an explicit issue or as a component of other issues such as population growth.

Livingston and Blayney, planning consultants for the revision of the County Comprehensive Plan, adopted a procedure for posing a series of nineteen questions to Citizens Advisory Committees in various communities of the region. Concern for the environment was pervasive even when economic factors were cited as possible trade-offs. The top two issues in an informal Junior League study were 1) land use planning and the growth issue, and 2) water.

Radio Station KIST, in reapplying to the FCC for license renewal, reviewed community interests and needs. The community leaders sampled did not explicitly raise preservation and protection of the physical environment. KIST's broader random sample of the area produced as major issues "the City Council and its no-growth attitude" and "general people problems." Opposition to no-growth policies was reported to be widespread. This survey also cited the need to protect the environment, especially from pollution risks incurred in off-shore oil drilling.

Also in 1974, random telephone interviews concentrating on attitudes towards growth, were methodically conducted and tabulated by a group of local citizens (The Santa Barbara Task Force) commissioned by the City Council "to provide an analytic base to help determine an optimum level of population for the city". Overwhelming opposition to increased population was reported and the city has since set a population ceiling of 85,000. This is the population level for 1990 selected by Livingston and Blayney. (The present

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49/Wormhoudt, Daniel. "Issues and Access," ACCESS Design Phase Documentation, Volume B, from which this subsection is edited.

city population is 74,000.)

A series of meetings conducted by the ACCESS project throughout the region early in its Design Phase took up the issues of "Growth" and the "Quality of Life". By means of a polling mini-computer, sessions moderated by its inventor Thomas Sheridan, MIT, stimulated and recorded spontaneous, open dialogue. With regard to the environment, the predominant concern of all groups was to slow population growth. Growth was closely linked to Quality of Life which was defined by each group in different terms, but overall, economic security, natural environment, aesthetic and cultural facilities and responsive government were most prominent. A growing number of special problems were identified: the need for controlled development; better land use planning; more public transportation; adequate waste supply; reduced air, water and land pollution; new employment opportunities; better education for minorities; and simpler, more responsive government.

If the South Coast Region has a preeminent concern it is "Quality of Life". "Quality of Life" is a phrase which appears repeatedly in the South Coast Region press, in group discussions, and private conversations. Though the phrase surely has no single common meaning, it seems always to include protection of the natural environment and it serves as a standard against which the importance of other issues is measured.

Among the citizen participants in the ACCESS project itself, the problem of determining what issues are most significant in the region and what role or functions ACCESS might perform in relation to them became a growing concern. ACCESS Members, organized in six committees, began to define and establish the ACCESS pilot process. In order to facilitate the identification of specific issues which ACCESS might address in the one year Pilot Test, two meetings with a selected group from each ACCESS citizen study group were scheduled (August 11 and August 13, 1974). The following questions provided the agenda:

<u>First Meeting</u>

A. What are the most pressing issues facing the

South Coast Region?

B. Which of the issues identified in A. are most feasible for ACCESS to concentrate on?

Second Meeting

C. What form of organization must ACCESS assume, and what sort of functions should it perform, in order to deal with the priority issues identified in the first meeting?

D. What is the most important item or set of items for an immediately operational agenda, given the goals and organizational functions defined in C.?

E. What actions must be taken now to implement the agenda developed in response to D.? Who must do what, and in what way, to accomplish the immediate objectives before ACCESS?

The design of the questions and the procedures for discussing them was intended to encourage a deductive process which would progressively narrow and sharpen the group's focus and produce as an outcome clarity and agreement about the particular direction(s) ACCESS should take.

The five highest priority issues thus identified were:

(1) UNIQUE AND SCARCE RESOURCES - Identify the unique resources of the region and produce consensus about them; use water and other scarce resources more effectively;

(2) LAND USE - Control land use in the region more closely;

(3) HUMAN ECOLOGY - develop a consumer education process/organization and a political education process;

(4) COMPREHENSIVE PLANNING - devise a more comprehensive, integrated and responsive planning process in the region;

(5) TRANSPORTATION - examine the possibility of a regional multi-modal transportation system.

By the end of the first meeting, the five priority issues facing the South Coast had been selected and a broad consensus reached about which of them might most feasibly and productively be addressed by ACCESS. The consensus appeared to be that ACCESS should undertake as its demonstration task a set of specific, limited issues. The need for specific projects was justified on the grounds that ACCESS has limited resources, that it needs to create presentations or reports quickly in order to promote increased and wider citizen awareness and participation, and that it must do, especially in its first efforts, a highly skillful and competent job. (This represented complete concurrence with the national evaluation in late July.)

During the course of the second meeting, six functions for ACCESS were chosen:

(1) INFORMATION CLEARING HOUSE - It was widely agreed that numerous sources of data and information relevant to the issues confronting the South Coast Region already exist or are currently being collected by other organizations. ACCESS should, as one participant phrased it, serve as an "information clearing house".

(2) INFORMATION "DRAMATIZATION" - It was emphasized that ACCESS should be exciting, that information and its analysis should be "dramatized", relying heavily on the electronic media (especially TV).

(3) PUBLIC FORUM - It was proposed that ACCESS should be open to the broadest possible public as a regional forum in which anyone may participate, subject only to certain minimal procedural rules. It was recognized that, at least at first, ACCESS will have to promote itself actively within minority communities and groups in order to encourage their participation.

(4) CONSEQUENCE TRACING - It was decided that while ACCESS should not itself attempt to be a policy-making body, neither should it be merely a passive resource, a library. It should instead pose and project answers to the question "What if. . .?" in a variety of problem areas.

(5) EDUCATION - ACCESS was seen as an educational tool or vehicle in two distinct senses: (a) it should provide the people of the region with the orientation and information they need to understand and form intelligent opinions about the issues confronting the region; (b) it should familiarize people with the new and powerful technologies of information collection, processing and graphic display by encouraging people to use them (e.g. interactive computer terminals).

(6) PROCESS - ACCESS is a process, rather than a static structure, and it should, therefore, include procedures for continuous monitoring and evaluation.

After review by ACCESS Members, it was decided to leave the details of an operational agenda (Questions D and E) to the ACCESS staff to propose.

ACTIVITIES OF THE ACCESS PROJECT

The original concept of the ACCESS Design Phase was to begin in September 1973, three to four months after the diverse group of South Coast Region leadership institutions had indicated their interest and support of the concept. In nine months, with local citizen involvement, the design of the ACCESS process was to have been completed. A major discipline to that design was to cost and detail a three to five year research demonstration.

Beginning in September, the ACCESS project, built on the initial show of enthusiasm, was to have fitted into people's normal calendar of activities which coincide with the school year.

ACCESS DESIGN PHASE 1974 HIGHLIGHTS

January 14	Project announced in Santa Barbara
February 1-9	Operations and staff selection begin in Santa Barbara
April 3	ACCESS dialogue at Center for the Study of Democratic Institutions, Santa Barbara
May 2	ACCESS first citizen organization meeting in Lugo Adobe; six study groups established
May 15	Consultants commissioned
June 1	ACCESS Public Workshop - "New Tools for Managing Change"
June 1-7	ACCESS first videocassette produced
June 30-July 1	NSF staff site visit
July 23	Santa Barbara City Council withdraws endorsement, but not financial support
July 26, 27	Project evaluation by national panel
August 11-21	ACCESS selects range of issues and methods for one year Pilot Test
September 17	ACCESS Advisory Board formed
September 28	Conference with planning specialists from the region
October 22	First meeting of ACCESS Advisory Board; executive committee announced
December 2, 3, 9	ACCESS Design Phase Report to South Coast Region, presentation and television production

January to May 1974

Regional funds were not added by the National Science Foundation until January 14, 1974. The Principal Investigator did not move to Santa Barbara until February. Energy was immediately directed to efforts that ultimately did revive interest and regain visability in the region, but the delay in funding cost the project four valuable months. It was not until May that the ad hoc citizens group that had kept the project alive was in a position to extensively broaden citizen involvement. Three local citizens were designated as project coordinators. On May 2, over 90 people selected their places on the six study committees as defined by the Principal Investigator. That membership matched project sponsors and endorsers in its diversity, and the project was launched.

May to August, 1974

During the next three months, through July, ACCESS consultants and staff prepared "resource papers" in each of the six study areas, and organized and supported their review by the study committees. The study areas as originally defined for citizens on "sign up sheets" are given below:

(1) Data and Information. Identify regional data and information sources, where located, how collected, now maintained; also, recommend detail, kind, scale, type, frequency, source, maintenance of data and information desired.

(2) Research Resources. A survey of regional human resources and specialized equipment. This is to include especially faculty and students of UCSB; commercial research firms, such as GE Tempo, General Research Corp.; governmental agencies; non-profit organizations; and individual professionals and scientists. Computers and communication skills are to be included.

(3) Relation to General Planning. Over the next several years from $700,000 to $1,000,000

will be expended on general planning in the region. This includes plans by the Coastal Zone Commission, the County, the City, and the Redevelopment Authority of Santa Barbara. A common data base, alternative approaches and coordination of these plans will be examined, as well as those undertaken by specialized governmental functions, utilities, etc.

(4) Organization. Alternative ways to organize the proposed process need to be analyzed. The representation of various viewpoints, linkages to existing institutions (especially public and citizen policy makers), use of communication media, sources of funding, etc. will be addressed. Whatever legal instruments are necessary will be drafted.

(5) Cable and Broadcast Television. The present cable system and local broadcast television systems need to be assessed in relation to the proposed pilot process. The potential, cost and phasing of limited as well as regional two-way television needs to be estimated. This study is to include feasibility and cost estimates performed by consultants.

(6) Computer Systems. A particular interest of this project is to attempt to learn the extent to which computer assisted graphics, drawing on coded, ordered data and information bases, can be applied to regional research and policy making. This committee will take up time-sharing, the ARPA network, computer equipment accessible in the region.

These early statements of the tasks involved in defining the ACCESS process were modified to a degree during the summer's work. After the July 26-27 evaluation, specifications and detailed estimates of the 3-5 year Region wide System Test were dropped altogether. Instead, a one year Pilot Test was specified.

During June 1974 a practical workshop on the experience of geo-based information systems was held, and the first videocassette produced. By

this time it was clear that the project, out of phase with the community activities, and behind schedule as it was, was in need of additional funding. The NSF staff site visit in late June verified that need and the potential of the project.

It had also become clear that simply showing examples of the sort of visual communications which the project intended to use was not convincing of itself. The study groups all concluded that specific regional issues had to be taken up by the process. That was also the advice of the evaluators in Santa Barbara on July 27, underscored by the withdrawal of City Council support (but not its funds) earlier that same week. ACCESS project membership was of an importance, combined with diversity, enthusiasm, and technical skill that apparently threatened a vocal few. But they were well-connected in the City Council and the project was vulnerable. It had been a year since the City Council's commitment of $2,000 and ACCESS had notyet delivered.

August - November 1974

Design of the 3-5 year research test was dropped. The review work of the study committees turned instead to selecting specific regional issues which could be used to demonstrate the utility of the ACCESS process, with its stress on visual communication to explore policy alternatives. Interested members for each of the six study committees agreed to take part in two special meetings for this purpose, as was reported in the previous sub-section.

Out of this series of meetings, expanded to three, the ACCESS concept solidified and an Advisory Board was established (from which an Executive Committee was formed October 22). The rest of the work of the project was to glean from the resource papers and their study reviews, the eight regional policy statements. For $2,000 the county contracted to support the development of these statements. They were also promised to all regional sponsors. Drafts of the Report

to the South Coast Region, which incorporated both the policy statements and the proposal for the one year Pilot Test, were made available for review in October. Subsequently, a public service television show was produced by KEYT, rebroadcast two times on cable television (Channel 28) featuring ACCESS members who also made the formal presentations to the County Board of Supervisors and the Santa Barbara City Council. Fully aware of the national prototype character of the ACCESS project, the need to demonstrate it locally, and to complete the design of the ACCESS process with test issues, no local funds were requested of local governing bodies for the pending one year Pilot Test.

Cooperation with the ACCESS project's proposed one year Pilot Test was assured by almost all of its original sponsors, including the county and both cities. However, the Santa Barbara City Council, which in July 1973 had voted 4-1 to withdraw its endorsement of the ACCESS proposal, first voted to cooperate with the one year Pilot Test (4-3); then, the following week it reconvened and split 3-3. The legal result was "no position".

November 1974 - August 1975

Project funds were expended October 31 but ACCESS members kept up monthly meetings, during which they decided to work at defining the representation and organization of a legally chartered non-profit ACCESS corporation. At the February meeting, as part of that effort, the wording of the statement of purpose for ACCESS was agreed upon. (It is given on page 3.) A newsletter and speakers bureau were begun at this same meeting.

From January to August 1975, the Principal Investigator divided his time between Washington and Santa Barbara. As had been agreed with NSF, the interest of federal agencies in the ACCESS concept and possible sharing in the support of the one year Pilot Test was to be explored. Presentations were made to eight federal agencies, followed by numerous meetings. The results have been gratifying. As of August 1975, offices of four federal

agencies had addressed themselves to the proposition of funding the one year Pilot Test (Commerce, NASA, Agriculture, and the Environmental Protection Agency) and four offices of the National Science Foundation were considering the project.

ACCOMPLISHMENTS OF THE DESIGN PHASE

The purpose of the ACCESS project, as stated in the approved grant application for the Design Phase was:

to define the ACCESS pilot process

in such a way as to:

(1) provide a sound basis for exploratory research;

(2) state the significance of the national learning experiment which the pilot process would provide;

(3) provide useful policy reports to the South Coast Region;

(4) develop enthusiasm, support and commitment to the pilot process in the South Coast Region;

(5) develop national and local sources of funding;

(6) develop interest in and evaluation of the proposed pilot process.50/

Accomplishments of the ACCESS project in its Design Phase are covered in detail in the ACCESS publication and visual productions listed in the APPENDIX. Since they are also summarized in

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50/ See Footnote 28, p. 25.

Section II, SUMMARY, pp. 29-32, that listing will not be repeated here. This subsection of the report will discuss the six study topics, the ACCESS Regional Situation Room and efforts to assure that the work of the Design Phase is available and used.

Six Study Topics

ACCESS volunteer work, estimated at 10,000 hours for the Design Phase, centered around the investigation of six topic areas. Study committees of 10-20 persons were organized for each topic area. Staff and commissioned consultants produced resource papers for them to review and in other ways supported their participation.

Data and Information. The primary effort was to gain familiarity with regional information sources: where information exists and how that information can be obtained on economic, physical, social, cultural, and other aspects of the South Coast Region. Dean Robert M. Hayes, School of Library Science at UCLA, provided an analysis of basic information needs for regional planning and policy-making, as well as guidelines for data referencing and organization.

Six UCSB students conducted and reported on a preliminary survey of data sources; the students verified the difficulty of locating and arranging for access to information sources. Another survey summarized library resources in and available to the region. A workshop on strategies for regional information management brought to Santa Barbara innovative project managers from Des Moines, San Diego and Vancouver, B.C.

Research Resources. These resources include 1) human resources--the expertise associated with personal skills, 2) meeting places, 3) advanced communication technology facilities, and 4) research organizations. An early survey inventoried meeting places throughout the region that could be used for ACCESS and other purposes. The staff made efforts to begin identification of individuals with various kinds of research

interests, capabilities and experience potentially relevant to ACCESS. Additional surveys were begun of research organizations and specialized facilities, especially those concerned with data processing and communications media.

Relationship to General Plan. The ACCESS experiment is an attempt to meet new and pressing demands. It does not compete with existing planning institutions in the South Coast Region, but is an additional facility for them to make use of. A review of planning institutions and efforts in the region was compiled. (71pps.) This essential information was previously unavailable in the region. Like other ACCESS resource papers, this "in work" paper may become of considerable value to the public as a reference if it is continuously corrected, supplemented, revised and updated.

ACCESS initiated contacts with planners, private groups and citizens in the South Coast Region to explore possible ways in which ACCESS might facilitate communication between planners, decision-makers and the public of the region. The initial period of operation confirmed the utility of the Regional Situation Room, to which the Lugo Adobe has been adapted.

Organization. Just how access to information, analysis, expertise and persons of the region to each other could be organized and funded was studied by ACCESS members after the papers and discussions of the other five groups had made clear that a unique process would indeed be necessary. An organization was needed to test and validate the ACCESS process that was:

(1) capable of handling information,

(2) open to and controlled by a balance of groups and interests,

(3) able to receive grants and other types of support.

These requirements were reasons for the origination of ACCESS and for its diverse sponsorship, but

now required more specification and the evolution to legal status. A major concern of the ACCESS concept is broad representation for all ages, income, and ethnic groups. Separate funding has been and is being sought to assure the integrity of the effort to reach and hold the interest of hard-to-reach "publics".

Broadcast and Cable TV. Accessibility to the ACCESS process rests on graphic display of information. It is believed that skillful use of television can induce wider participation in and readier comprehension of policy issues and choices in a region. Television is an important part of the design of the ACCESS process. Information to be assessed and used by the system will be formatted to be compatible with color TV.

The project has closely followed local developments concerning cable television and developments such as the new Learning Resources Center at UC Santa Barbara. The consultants, Ross Telecommunications Engineering Corporation and Arthur Klimack, produced comprehensive descriptions of the current cable system, its specifications for two-way capability and the basic compatibility of components required for the proposed system. A small film library was assembled including examples of computer-assisted graphic presentations. Three videocassette programs and an overhead slide presentation were produced which explained the ACCESS process and its transferability. (See APPENDIX for the listing of visual productions.)

Computer Systems and Graphics. To store, retrieve, handle, compare, revise and communicate information for something as large as a region in this era of rapid social change and complexity requires electronic equipment. Hence, a substantial effort of the Design Phase has concentrated on exploring the requirements for effective use of computers in the ACCESS process. A survey which was conducted of computer facilities in the region was extensive and detailed enough to become a resource in itself. Clearly, there is substantial equipment and experienced talent in the region.

Regional Situation Room

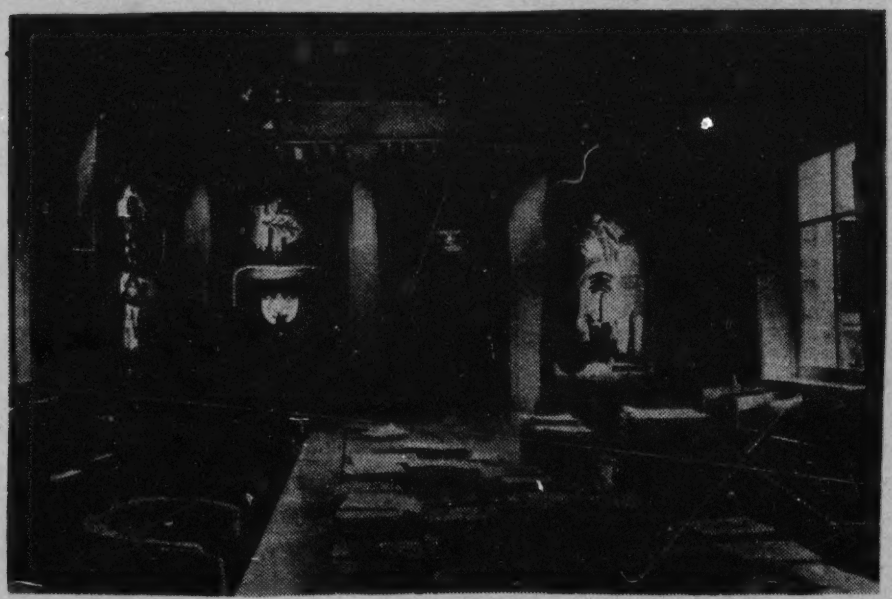
At the core of the ACCESS project, and one of its major achievements is its "Regional Situation Room". The unique identity of the project, and its major facility was established when the ACCESS project leased and refurbished the historic Lugo Adobe, Studio 4, in Meridan Studios, at 114 East De La Guerra Street, one block from the Presidio and a half block from City Hall. The wooden griffin sign that hangs over the sidewalk at the entrance to Meridian Studios was adopted as the symbol of ACCESS. (In Greek mythology, the griffin protected the treasures of Apollo, God of Reason. ACCESS protects the treasures of the South Coast Region.)

The one story, one room Lugo Adobe with its brick patio in back, adjoining office and facilities, has served as the meeting place for ACCESS since May 2, 1974. The adobe has connection with history as the house for one of the soldiers of Santa Barbara's Presidio, over 160 years ago, and as the office in which Pearl Chase began her work for Santa Barbara over 50 years ago. It is marked as an historic landmark of Santa Barbara on many maps.

The "Regional Situation Room" in the Lugo Adobe, is a 19' x 34', 12 foot high, raftered room with a skylight. The room has been fitted with ceiling track lights; tack boards for maps and project information line the long walls. Four major tapestries (4 1/2' x 10 1/2') by artist Norman LaLiberté, symbolizing "art", "spirit", "science" and "technology" are hung on tracks at the end opposite the fireplace. They slide to one side to provide a whole wall for graphic images.

Two 35mm slide projectors, a 16mm movie projector, a high fidelity sound system and a small film library are housed in a projection booth fitted onto the fireplace wall, outside a dutch door with a glass-windowed top. A 6' x 18' white sectional table 20" high is in the center of the room surrounded by 22 wicker chairs. There are 49 chairs in all in the room, including those against the walls. The outside patio has space

THE HISTORIC LUGO ADOBE, home of the ACCESS project; 114 East De la Guerra St., Santa Barbara, California 93101.



THE REGIONAL SITUATION ROOM INSIDE THE LUGO ADOBE, equipped for visualizing policy dialogues. (photographs by Steve Malone)

for another 100.

The conference table was designed for a 13' x 4' (2,000' scale) topographic map or model of the region. It can be disassembled into six 6' x 3' tables. At this stage the Regional Situation Room is used by other groups as well as ACCESS for their meetings. There is no sense of technology in the room and that is deliberate. It is first of all a pleasant space in which to meet and discuss. There are two flip chart easels, an overhead projector, and string from which newsprint sheets are hung, which provide means to visual dialogue now.

In the Pilot Test, the intention is to further equip the Regional Situation Room with: an aerial photograph of the region developed on the surface of the topographic relief model to be made of the region, an Advent Video projector and 6' screen, a 19" color television monitor, a videocassette player and a program locator, a computerized electronic polling system and a computer terminal. The room is to be connected to one of the "head ends" of Santa Barbara Cable Television and to the UCSB computer. The result is the second stage in the evolution of the Regional Situation Room, enhanced for ACCESS dialogues on regional policy issues. These dialogues could also be video-taped or carried "live" on television. The ACCESS project will make this facility available to the community.

During the one year Pilot Test, only the simulation of a Regional Situation Room is practical with such minimal equipment. Videocassettes will be used with the Advent projector to display 6' images. Graphic images will be interactive at this stage in the sense that the visualizations of each alternative for the test issues stored in video-cassettes can be called up for immediate projection by means of the program locator. Available computerized data coupled to the Advent projector can also be called up and displayed.

The ACCESS project will make use of all means of visual and oral communication, but will design its information storage and processing for computer-handling compatible with television display

at a rate that is practical for the users of the process and within the financial capacity of the project. The basic concept is to devise a test project that provides the opportunity to study visual means of communication as used to facilitate dialogue, understanding of information concerning regional policy issues, options and impacts, and responsible citizen contribution to regional policy making.

Utilization

Urban information systems have been the subject of over $25 million in reserach and development by the federal government in the USAC program alone.51/ Those programs have investigated the development and computerizing of information bases, primarily to meet operational requirements of local government. The Resource and Land Investigation program of the Interior Department, NASA's exploration into remote-sensed data, Oak Ridge National Laboracories' study of a universal grid system, and the Integrated Regional Environmental Management project in San Diego funded by the Ford Foundation are some information handling efforts in addition to USAC. This listing makes no attempt to account for the much larger, sustained programs in information handling financed by DOD, NIH, NSF and others. Most of these programs have concentrated on information management systems per se.

The ACCESS project in its Design Phase has attempted to define how to study the communication of information from the point of view of regional policymakers as users of information. This is a perspective which has specific demands to make on technology and programs for information handling.52/ It is this critical "point of sale," "interface," "perception" of information that concerns the ACCESS project. Part of the ACCESS thesis is that potential users should

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51/(USAC) Urban Information System Inter-Agency Committee; ten federal agencies led by HUD.

52/See footnote 29.

themselves have more of a role in designing the information handling process than they have been permitted to date. This is consistent with the mandate in law that came with the National Environmental Policy Act (NEPA) in 1969 concerning environmental impact statements and the sufficient and meaningful involvement of citizens in policy making concerning the environment.

In order to explain the ACCESS concept and to report on progress already made during the Design Phase, five briefings were held in 1974 at NSF in Washington to which federal agency and NSF department persons were invited.

Scores of presentations, official and unofficial, were made in the South Coast Region and in California. The project has been included in numerous published accounts concerning new approaches to future regional policy making, including the Conservation Foundation Newsletter of June 1975.

"ACCESS Q: Who Needs It?" a half hour television show produced by KEYT in Santa Barbara, was broadcast three times in December 1974. In Detroit a half hour "Common Ground" television show on Channel 56 clearly revealed that the graphic emphasis of the ACCESS process was quickly grasped and approved.

Presentations were made by the Principal Investigator and others to the American Association for the Advancement of Science (AAAS) in 1974 and 1975, to the Institute of Electronic and Electrical Engineers (IEEE) in 1975 and to the World Future Society in June 1975. The Computer Graphics and Spatial Analysis Laboratory at Harvard University requested a print of the ACCESS-compiled film showing examples of computer assisted graphics which the Bureau of Social Science Research included in one of its graphic social indicators workshops.

Most recently, Pacific Gas and Electric Company arranged for the Principal Investigator to make three presentations: to the company, a San Francisco Bay area group, and to public and

private utility government affairs officers of the ten western states.

From January to August, 1975, the Principal Investigator spent two weeks of each month in Washington. The purpose was to explain the ACCESS concept, its next step, and to seek support. Presentations were made and separate meetings held with the offices of eight federal line agencies, the National Science Foundation, and national non-profit organizations such as the National Urban Coalition, The Conservation Foundation and Resources for the Future. On March 3, 1975 a meeting for federal agencies was sponsored by James Scheuer (D, N.Y.) and Robert Lagomarsino (R, Calif.) in a hearing room of the House Science and Technology Committee.

The total result has been a strong confirmation of the national significance of ACCESS project objectives. It has been recognized that to get important information into policy makers' heads and to make citizen involvement sufficient and more meaningful requires research such as that attempted by the ACCESS project.

LESSONS LEARNED - RECONNAISSANCE PHASE

If "the beginning is half the whole" as Pythagoras said, certainly it is important to document the beginning effects of something as sensitive as designing a new process for regional decision making. This is especially so if the process is intended and funded as a national learning experience. A major factor and expense of the ACCESS project has been the "self conscious" nature of its work, its peer reviews, evaluations, and the pains taken to document each step of the way. There are 500 pages of documentation plus basic reports. (See APPENDIX listing of ACCESS reports.)

Because of the way it has been funded (see p.10-11) there have really been two "beginnings" for the ACCESS project (and a third to come if the Pilot Test is funded). They will be reported on separately here as lessons learned in the Reconaissance Phase (February to July 1973) and in the Design Phase (January to November 1974). The intention is to summarize what was learned so that other regions with similar concerns about the future Quality of Life and improving regional policy making can benefit from the ACCESS expereince.

Following the experience of the Reconaissance Phase, three fundamental principles for establishing a regional ACCESS institution and process were stated:

(1) Sponsorship of the initiating action must clearly gain nothing material for the sponsors, which probably means funding from outside the region;

(2) Efforts to explain and organize must be, and be accepted to be, independent of any public or private institution or any sector of society in the region concerned;

(3) Open discussion, participation and support should be sought from all sectors of the region from the very outset, while avoiding involvement in any political contests.

Other still valid rules for initiating an ACCESS-

like project, derived at the time of the Reconnaissance Phase, are as follows:53/

(a) Use a qualified person with no biasing ties or affiliations within the region--to be absolutely safe, use someone from outside the region;

(b) The initial effort to organize and explain should be adequately funded through an independent, respected source;

(c) Establish office space, answering service, etc. and publicize it so that all are free to reach the investigator;

(d) Spend time with both TV and newspapers to establish the purpose of the effort and the character of its sponsorship;

(e) Provide printed explanations from the first visit on, keep updated, reprint newspaper articles;

(f) Plan two to three meetings, if possible, with each individual from whom support is sought--the first time or so they will be sizing you up, not listening very closely to your words;

(g) Avoid technical jargon, be specific (use visuals);

(h) Meet with all types of institutions and individuals;

(i) Refer to computers and two-way television in ways that make clear you understand their limitations as well as their value, especially what might be practical initial applications versus their ultimate utility;

53/Rules (x), (y), and (z) apply if the investigator/organizer is from outside the region. Rule (w) should be read as the getting acquainted stage; the organization, funding, staffing, demonstration stage leading to an operating full-service ACCESS-like project will take 2-3 years.

(j) Seek financial as well as verbal support for the design phase of the project; financial support even if minimal requires policy board clearance--that takes longer but it means more;

(k) Make clear that financial support of the design phase brings with it no special advantage--it is a harder way to win support but it verifies the independence of the proposed process;

(l) Recognize and adapt to local customs, pace, priorities--it is offensive not to recognize the basics of the Quality of Life to be enhanced;

(m) Avoid statements that matching local funds are <u>not</u> necessary to the next stage in establishing a process--maybe the sponsor doesn't need funds but the proposed process will need broad community support to establish its credibility;

(n) No one individual, institution or sector of the community which contributes regional matching funds should be allowed a dominating proportion;

(o) Sponsor and regional matching funds for the design phase should be received and managed through an institution accepted in the region as unbiased and above any tampering;

(p) In beginning work in the region, seek first to meet with local leadership;

(q) Begin early to identify organizations and people who might serve as resources to the process itself, especially in universities and research companies;

(r) Avoid taking positions on current projects--there can be more strong feelings on all sides of regional issues than one can appreciate instantly;

(s) Be prepared to explain the concept of the

link between current decisions and long-range consequences;

(t) If possible, the original organizing efforts should be funded well enough to take advantage of and demonstrate the capabilities of graphics;

(u) Meet in small groups, seek two to three hours for give-and-take discussions, once there have been several short exploratory sessions;

(v) Seek out the regional issues of greatest concern;

(w) Count on a minimum of six months to a year for the initial organizing effort;

(x) Figure on three trips to the region, the first one from three to four weeks, the second from two to three weeks, and the final one from six to eight weeks;

(y) Establish a diverse ad hoc liaison group to cover inquiries between visits;

(z) Time trips to avoid major local events, especially political contests.

Lessons learned from organizing the ACCESS project are tantamount to instructions on how to adapt and initiate the ACCESS concept in other regions. It is useful to know, therefore, that the lessons learned from the Reconaissance Phase were verified by the experiences of the Design Phase. It may also be especially important to say something here about the three basic rules stated at the conclusion of the Reconaissance Phase, which stressed the independent character of the organizing effort and how it might be established.

The fundamental liability of an existing organization which attempts to develop an ACCESS-like regional policy making process is that such an institution has an image, priorities, functions

and relationships which automatically take precedence. This cannot help but threaten the credibility and the scope required of an ACCESS-like process.

Still, the initiative for adapting and organizing an ACCESS-like regional policy process has to become based in a region. This can be accomplished without prejudice if the initiating institution or individual, after drawing attention to the purpose of the process, proceeds to help establish an ad hoc organization that is truly representative of the region and not dominated in any way by any one existing public or private sector of the region.

Establishment of the ACCESS project in the South Coast Region is an example of that. It was assumed by the Principal Investigator that this environment-conscious area would have enough interest in the ACCESS concept to foster its establishment. It did, and a broadly representative ad hoc group was organized. Twenty-five individuals and institutions contributed $12,000, limited to a maximum of $2,000 from any one sponsor. Fifteen other institutions endorsed ACCESS or provided "in-kind" support. Most of these supporters still sustain their interest in the project, and the diverse character of the ACCESS study committee membership, as the ACCESS project evolved in 1974, was further validation of its scope and independent integrity in the region.

As a national exploration, the ACCESS project is not only concerned with the design of a process. It is just as seriously concerned--assuming the concept is valid--with learning how to initiate ACCESS-like processes in other regions. It was assumed from the outset that extraordinary expenses would be required to conduct such a ground breaking study. Being unproven, it could not be expected that there would be adequate local funding for this. Major funding was expected to come from outside the region. Furthermore, the nature of the exploration which was attempted severely limited possible sources of funding outside the region. It took the "Advance Scout" mission of the Office of Exploratory Research and Problem Assessment in the

ACCESS member Jeffrey Holyrod, UCSB, Architect-Designer, College of Creative Studies, takes a note from Donald A. Schon, MIT, Ford Professor of Urban Studies and Education.

THE NATIONAL EVALUATION, JULY 26-27, 1974 Experts from across the nation gather in Santa Barbara to critique the ACCESS project. Roman Mrozinski, National Academy of Engineers, Committee on Telecommunications, listens to an explanation by Garland Green of the American Revolution Bicentennial Administration, Horizon Program. (photograph by Leinie Nagel)

RANN (Research Applied to National Needs) program of the National Science Foundation to recognize and fund the initiation of the ACCESS project.

LESSONS LEARNED - DESIGN PHASE

At the conclusion of its one-year Design Phase, the ACCESS project had learned the following lessons:

Integrity

There must be real and recognized independence of process organizers from local direction by any special interest group, individual, political party or ideology. Rarely would any existing organization be found which is as broadly representative, free from manipulation, and of the technical scope deemed essential to the integrity of the ACCESS process.

With that recognized independence can come the realization that the process cannot be "taken over" by any one group. This fact may convert those who feel especially threatened into active opponents. It may cause other established institutions to be apathetic, to wait for the initial effort to die out so that they can assume command of whatever portion of the process fits their own established agenda.

(All project funds for ACCESS were made to and managed through the American Society of Landscape Architects Foundation. This "buffered" the project from any pressure from sponsors. Further, no special favors from any quarter were accepted by the Principal Investigator, who himself was a stranger to the region. In addition, he was vouched for by the respected local leader, Pearl Chase. The liabilities of being a stranger in town would have been overwhelming without staunch local support.)

Continuity

To begin the organization of the process, it is essential that "hands off" backing at an adequate level be committed to stay with the effort for at

least two years--three is probably more realistic. It will take that long to familiarize people with the total scope of the process in ways that help them see their own particular use of it, and for them to relate to it comfortably.

Credibility of the ACCESS project in the region was severely stressed by the "stop and go" nature of the project attributible to its uncertain funding. Some action-oriented people, naturally suspicious of outsiders anyway, could not perceive the funding reason behind the project's lack of continuity. Extraordinary expenses for communications and staff time were thus required to sustain community interest.

(The evolution of the ACCESS concept [see pages 30-31] involved two one-to-three month contracts, then six months of no funding and then the nine months of the project. During this entire span of time, at least a third of the Principal Investigator's time went into searches for funding. This is not the way to launch such a difficult project. [See also Funding in this subsection.])

Staffing

To achieve both the desired local involvement and the application of technical knowledge to initiating the process, the minimum staff is three persons, assisted by consultants and volunteers. Staff skills required are professional-technical, community relations and an administrative secretary.

(The ACCESS project was "staffed" by the Principal Investigator and a secretary, plus uncertain funding for part-time assistance and consultants. The important and time-consuming business of community relations was necessarily slighted because of efforts required to develop the conceptual design, to report and to develop additional sustaining funds.)

Involvement

The design of an ACCESS process should be open and available to all interested groups of the region from the outset. There will tend to be a

limited number of volunteers involved in a complex, neutral forum, abstract information process such as ACCESS, especially at first, but the opportunity and invitation should be there. A project such as ACCESS does not have the emotional appeal of many public interest groups. Volunteers tend to work for a felt "cause" and are most easily organized "against" some outside threat.

Involvement in any <u>new</u> activity is difficult in the face of many already established community volunteer activities.

(The previous volunteer experience of ACCESS members showed clearly in their participation. It is probably also true that time spent in ACCESS meetings, which often ran 2-3 hours, drained time away from other volunteer organizations and in that sense "competed" with them.

The relaxed, leisurely pace of the South Coast Region made it somewhat difficult to gain the involvement of some in the short term project quickly enough.

The fact that people of the South Coast Region are so concerned with its environment, (especially those taking part in the ACCESS project) is probably the basic reason the self and peer selected people who started with ACCESS in May 1974 have stayed with it all through its uncertain "stop and go" evolution.)

<u>Timing</u>

The groundwork for organization needs to have taken place in time to involve people in the early Fall. Most people organize for the year's activities at the opening of the school year.

(Local commitments to the ACCESS project were made May - July 1973. The National Science Foundation funded the ACCESS project in January 1974. It took until May 1974 to get ACCESS organized to the extent people could be usefully involved in its work. By then people were already either busy completing projects or getting ready for summer vacations Still, 90 showed up in May and most of them stayed on.)

Expectations

The complexities of establishing a technically competent regional policy making process are difficult to explain. People tend to expect more than is possible. This makes tangible "by-products" during the initiating activities especially important to help facilitate the early establishment of credibility.

Education takes time and people tend to be impatient. Besides they are already busy. Two years before results is too long to wait. Actually, six months is too long. People tend to want instant solutions. Formal organization of the project, identifying its local leadership, and simple overhead slides, or other visual communication explaining the purpose of the process being developed, may be the earliest possible "products".

(The ACCESS project foresaw the need of early products and planned for regional policy statements in the Design Phase. Unfortunately, those statements were delivered six months late for maximum local interest, due to the gap between local commitments in June 1973 and NSF funding in January 1974.)

Minorities

The long-range future is a vague abstraction to most people. This is especially true for low income, racial or ethnic groups with immediate, felt needs outside the awareness of the larger community. A special effort is needed to reach such groups and other difficult-to-involve individuals such as young people, old people and women.

(Chicanos are the primary ethnic minority group [28%] in the South Coast Region of Santa Barbara County; blacks compose about 1%. The Chicano people of the region are not organized as one group. There may be a score of separate Chicano communities, but that is not known, nor are all their leaders identified.

An unsuccessful attempt to involve Chicanos was made through one group in the spring of 1973.

Foundation support for this purpose and, most recently, to develop and staff an independent panel of ethnic leaders to help them relate long-range policy and planning to the interests of their people, has not yet been found.

The ACCESS project will continue to strive for the active participation of hard-to-reach individuals in its program. It has been only modestly successful in this to date.)

Funding

Wide community support at the outset is necessary if there is to be credibility for the ultimate process developed. Funding from one or a limited number of sources is satisfactory only if the source (or sources) is recognized to be, and is, strictly insulated from the power to manipulate either the organizing initiatives or the process that is developed.

Desirable as it may be, funding from local public bodies runs the risk of their action-oriented over-expectations. This can make the project vulnerable to political pressure unless that funding is committed over the life of the initiating efforts.

Reliance on local governmental funding tends to dampen innovation because of the political risks involved in financing experiments, especially when there is always a competition for scarce, discretionary local funds.

(First commitments of funds for the ACCESS project were assembled by the Principal Investigator from a wide spectrum of community organizations in the South Coast Region. A total of $12,000 was sought with no more than $2,000 from any one sponsor. Ultimately, $12,045 in cash was raised locally, and during 1974 an additional $5,600 of in-kind services, office space, furnishing, etc. was provided.

Most of the local financing was accomplished by June 1973, six months before funds were committed by the National Science Foundation. However, one

major local sponsor ($1,000) did not commit until the winter of 1973-74 and one other ($2,000) did not make payment until April 1975. A considerable portion of the Principal Investigator's time was diverted to seeking and collecting local and national funding.

By the spring of 1974 it had become evident that the local funds ($12,000) and NSF funds ($67,500) committed were insufficient to achieve the purpose of the Design Phase. Time spent by the Principal Investigator, especially in seeking additional funds from national foundations and federal agencies, became a serious drain on the project. As it turned out, no such additional funding was secured except from NSF.

An NSF site visit in June 1974 and the July 1974 national evaluation, verified the worth of the project and the need for funds. This was sufficient to increase NSF support to a total of $120,700. In May 1975, NSF added an additional $11,800 for extra copies of ACCESS publications, duplication of its visual productions and for time of the Principal Investigator to make presentations in Washington and elsewhere. This last grant was for "utilization", to maximize the transfer of what had been learned from the ACCESS Research Phase, and to seek future involvement of line federal agencies.

In addition, the Principal Investigator's records, after deducting the utilization grant, show that as of August 1975 he had contributed $36,000 in consulting services and $13,000 in cash to sustain the project since Design Phase funding ceased October 31, 1974.)

Technology

A regional policy process like ACCESS which attempts to recognize and deal with the complexity of our fast-changing reality, seeks to span information requirements from decision making to citizen involvement. This is seen to require a much greater use of visual communication, which of itself seems generally accepted. But mention of the means by which this sort of communication can be achieved, (especially in large regions,)

through computers and two-way cable television, frightens some people. It is important to recognize this.

There are people, unacquainted with telecommunication technology themselves, and suspicious about organizations that can afford it, who are apprehensive about an information handling system that proposes to involve more people in regional policy making by using computer-assisted graphics. (The necessity to protect privacy, general access to information, and freedom from manipulation are recognized as basic to any ACCESS-like process.)

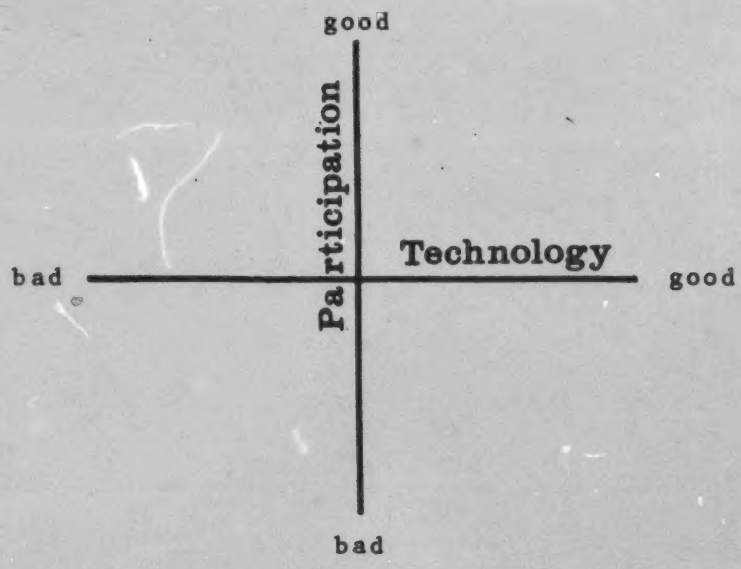
There are other people in organizations that already use modern telecommunications who are skeptical about making it available to broad publics, especially if it increases citizen involvement in regional decision making.

Among some elected officials, their boards and staffs, there are people who see in more citizen involvement a threat to their own roles. They also recognize no priority need for costly information-handling equipment, especially if it is graphic, since they tend to be people who themselves are quite facile with verbal communication but not graphic communication. (See Section I, THESIS, p. 4.)

It is a mistake to place early emphasis on the technology required for a regional policy making process able to cope with the complexity of major metropolitan regions and states. Whereas such telecommunications technology cannot be overlooked, it is more vital to establish how it is to be managed, especially the safeguards--and what it will accomplish.

Following is a diagram which is a representation of the acceptance of various groups regarding the use of technology for citizen participation. It is a slightly modified version of a diagram by Stuart Umpleby, University of Illinois.54/

54/Umpleby, Stuart S. "Is Greater Citizen Participation in Planning Possible and Desirable?" Technological Forecasting and Social Change, New York, American Elsevier Publishing Co. 1972, pp. 61-76.



HOW CERTAIN GROUPS VIEW PARTICIPATION AND TECHNOLOGY

The logical possibilities expressed by this diagram were discovered in the actual experience of organizing the ACCESS project. Citizen members of the ACCESS project are themselves advocates of more information to help decision makers, including more citizen feedback. ACCESS members support the need to employ appropriate modern telecommunications as an "anti-body" to help control misapplications of technology. (The ACCESS project has representatives in all sectors of the community.)

The most evident opposition in the region to the ACCESS concept to date has come from individuals who see more citizen participation as "good" but believe using more technology to achieve it is "bad". (The upper left quadrant of the diagram.)

Some persons of the South Coast Region, as in the lower right quadrant of Umpleby's diagram, have tended to be apathetic to the ACCESS proposal to broaden the traditional definition of regional policy maker. They recognize the utility of modern communication technology but are fearful about dropping the quality of information and decision making capabilities if the regional policy making process is opened to more people. Their apathy rather than direct opposition may be explained by

their knowledge of the costs involved in initiating actual application of such technology.

Those in the South Coast Region who are against both more citizen participation and more technology to achieve it would locate themselves in the lower left hand quadrant of the diagram. These tend to be individuals who see the present operation of representative government as already providing adequate citizen participation. Their distrust of technology is easier to express openly than opposition to new forms of citizen participation.

A weakness of the small scale of the ACCESS test region is that much of the region's business is conducted "face to face". This makes it difficult for some to imagine the necessity for exploring the use of improved communications technology. And some in the region may not share the Principal Investigator's conviction that the experience in citizen involvement of the South Coast Region has a significant contribution to make to other--large scale--regions, especially if it is coupled with the development of interactive graphic telecommunications.

The ACCESS project's close association with technology in the South Coast Region has another liability. This being a region that seeks to "preserve" and "conserve" is the home of some people who readily perceive in the application of <u>any</u> technology the threat of unwanted change. But this is not a view held by this Region exclusively. The ability of people in the South Coast Region to articulate this viewpoint is, in fact, one of the reasons for selecting it.

V. Next Steps

V. NEXT STEPS

National evaluators of the ACCESS project concluded in July, 1974, as had the ACCESS membership previously, that the ACCESS process being designed should be tested with specific regional issues. Only in this way can the process be understood and its design made practical. A number of possible issues were discussed in the following month by ACCESS members. Ultimately two were selected: Fuel Breaks in the Santa Ynez Mountains and the Impact of the Quality and Quantity of Water on Land Use.

This section summarizes the national evaluation and describes the one-year Pilot Test based on these selected regional issues. It also sketches the 3-5 year Region-wide System Research Demonstration to which the Pilot Test might lead, and discusses the design of components for the demonstrations which would also be undertaken during the Pilot Test.

OBSERVATIONS AND RECOMMENDATIONS OF THE NATIONAL EVALUATION

During July 26-27, 1974 in Santa Barbara, a distinguished panel of seven evaluators (proposed by the Principal Investigator; approved and funded by NSF in the original grant application) and eight other observers, examined the nascent ACCESS project.55/ This evaluation was scheduled midway in the project's development--late enough to identify project policies and progress, early enough that the project could still benefit in the Design Phase from a skilled, objective critique. Although those named as evaluators led the examination, the observers joined in freely and also provided written comments.

The conclusions and recommendations of the evaluation both validated and challenged the ACCESS project. This could be summarized as follows:

- the project is creative, timely, promising, and is working on an important and difficult problem;
- the project is making progress despite various obstacles;
- the project should be given additional funding to support a second research phase for about one year after the current design phase ends in November 1974 and before the 3 to 5 year demonstration;
- the project should begin to make its activities more concrete and specific; this could involve demonstrations of current issues and their alternatives;
- the project should present a range of alternative activities which it would pursue in the one-year phase, along with estimates of funds and other resources required, and possible phasing of alternatives.

55/For the full listing of the out-of-town persons taking part July 26-27, see the APPENDIX, p. 180

The outstanding qualifications of those assembled for the evaluation and their appreciation of the national significance of the issue which ACCESS confronts deserve more than the brief summary just provided. To accomplish this, verbatim extracts from evaluator's observations are provided (the indented paragraphs), preceeded by the Principal Investigator's overall summary of evaluator's comments (underlined).56/

The Problem

1. Is the ACCESS project addressing a significant nationwide problem? Yes.

> ACCESS claims to address a major national issue--one that, in my view, qualifies as a candidate for the major national issue presently before us: the quality and effectiveness of public learning in America ....Trust in local and regional units of Government, and participation in their processes, seems at a fairly low point. The project attempts to identify local and regional decision-makers, to inform them concerning major issues and to provide them with a means for participating in significant problem-solving efforts. This is not viewed as a process which would operate outside of traditional political units and structures, but which would open these "to a greater extent and make their actions more acceptable to the communities they serve."
>
> The ACCESS project is creative, timely and promising. American society functions through two principal channels, one of which is official or governmental; the other is private, or civic. If the public order is to operate most effectively it must be strengthened by an informed,

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56/All the written comments are available verbatim in ACCESS Design Phase, Documentation, Volume B.

continuing and vigorous private sector. Project ACCESS is an institution-building initiative at the level of small region (county) government....I am deeply impressed with the far-reaching importance of the problem which ACCESS is tackling--it was significantly summed up by one of the commentators as being the essence of our continuing ability to govern ourselves.

2. Is the ACCESS emphasis on region and policy-maker, (from the traditional decision-maker in organizations to the individual citizen), useful for attacking the problem? Basic and correct.

3. Is the ACCESS emphasis on accessible information and graphic communication, utilized through a non-profit institutional base, worthy of further exploration? Yes.

   Exploring the feasibility of applying scientific advances as an aid to public participation in local and regional decision-making is an appropriate project for NSF sponsorship under its program of Research Applied to National Needs.

4. Is the ACCESS learning experience transferrable to other regions? Yes, probably.

   The "Regional Situation Room" gives ACCESS a character of its own and will enable widely diverging groups in Santa Barbara County to come together not only to utilize graphics or hook into computer terminals, but also to interact affectively as well as cognitively. This unique forum can help narrow the issues of disagreement between contending parties or, in the alternative, find common stands that neither group had thought of. The forum must be maintained and enhanced.

5. Other Comments?

The principal problem to be dealt with by the ACCESS process is not so much one of scale as it is of political relations; the number of regions with low urban populations is vast; demographic trends show population in non-metropolitan areas increasing faster than in metropolitan areas.

It seems to me that one of the weaknesses of the literature and practice of community development has been precisely in the area of information gathering, communicating, and utilization. As our industrial society grows ever more complex, the things citizens learn in their families and in school are increasingly inadequate for providing them with the information they need to make intelligent decisions regarding development. I also endorse the regional approach and the aim to develop an informational system that will enable ordinary citizens and citizens groups to have some impact upon development decisions.

One of the major problems of linking information to development decisions is providing ways in which diverse and technical data can be conveyed in interesting and understandable form to non-professionals in the planning field. As ACCESS learns how to do this, it seems to me that the ACCESS experience should be transferred to other regions.

The Project

6. Is it appropriate to define and test the ACCESS concept in a region with a small urban population such as the South Coast Region? Yes.

The region is complex enough to be interesting and yet not so complex as to be overwhelming. Most real-world socio-political research projects deal with much less complex communities than

this one which makes them of little general use.

Santa Barbara, with the high spirit of citizen involvement and a conducive combination of geographical and social factors, offers a suitable testing ground.

7. Is it appropriate for ACCESS to deal simultaneously with theory and operation--with two "clients" at once: the National Science Foundation and the South Coast Region? Yes.

8. What appear to you to be the goals of the ACCESS project? In this initial 9 month phase? In a 3-5 year pilot test? Are they well related to the problem? Overly ambitious in the Design Phase. The emphasis on action/research was valid but the way was paved for psychological disappointment.

The goal of identifying the many policy-making components of the South Coast Region and to pull them together into a unified open, structured process is a very desirous one, but this is not a task that one might expect to accomplish overnight....Even so, progress has been made on each objective of the Design Phase:

- analysis, synthesis and communication of regional problems and options for policy-makers and the public;
- to provide technological input to regional decision making and to experiment with new technology to communicate problems and options, and to obtain feedback;
- to base activities on private sector, public interest activity;
- to involve policy-makers;
- to serve as a model for other regions and for future-oriented activities during the U.S. Bicentennial Era.

9. Is the ACCESS concept of openness to all people and all ideas during its design phase appropriate? Essential.

But openness can be awkward in the early stages especially. It risks encouraging false expectations, especially if openness occurs before experts provide a sense of direction by means of a plan.

10. Does the ACCESS concept duplicate, parallel or supplement existing institutions in the region? Not its generalist function.

However, it could be viewed by some as competitive until its purpose is clarified by an action program.

11. Is the ACCESS concept understood in the region? No.

There is a low level of understanding but surprising respect and credibility. (See 17 below.)

12. Are the resources at the disposal of ACCESS adequate to its initial purpose of design and review? No.

Not enough time or funds for the Design Phase. (See 17 below.)

The perception that such support is forthcoming, and that therefore the project is a long term one, is a necessary ingredient to meaningful community involvement.

Possibilities

13. Does the ACCESS concept face unusual obstructions in the South Coast Region compared to what it would meet in other locations? No.

The major obstructions are political, not unique to the region...new enterprises such as this are bound to run into some sort of opposition wherever they are attempted...But ACCESS took a heavy risk

when it chose the South Coast Region. The educational, economic and other assets of the population are high enough to generate intense competition among civic groups without marshalling a strong sense of direction.

14. Are there other equally developed possibilities elsewhere? Yes, but...

I have seen no other project so dedicated to the goal of enabling a citizen to make public choices with some understanding of what their long-term consequences might be. The concept of ACCESS is steeped in the American tradition. De Tocqueville's emphasis on the peculiar but vital liberty we call "freedom of association" is testimony to this....The failure of ACCESS, which is almost ideally sited, would not only be a setback for this project itself, but would discourage new means for citizen participation in government throughout the United States. For those of us who believe that the laity as well as the "expert" should make and implement public policy, the death of ACCESS would indeed be discouraging.

15. Other Comments?

One uniqueness of ACCESS is the reversal of the centralization of resources in the society. It affords a local concentration of resources not otherwise available.... The potential impact of the ACCESS process on the political processes of policy and decision-making is incalcuable. The prospect of a truly enlightened electorate is very exciting, indeed. However, it can be equally frightening or threatening to certain political figures and special interest groups. This leads to what I see as the major obstacle to the success of ACCESS: institutfonal jealousy and fear on the part of those agencies and interest groups which ACCESS would like to serve.

ACCESS can provide policy research with a difference. Unlike other policy research organizations, ACCESS...

(a) has a local focus

and

(b) not only requires citizen participation, but sees itself as a policy research arm of local publics.

The policy sciences are now a well-established academic discipline, and ACCESS could be perhaps the model use of them in a mission-oriented way.

Overall Evaluation and Recommendation

16. What are the chances for useful further exploration of ACCESS in the South Coast Region? A gamble but an interesting one.

The Principal Investigator is on sound ground when he emphasizes persuasion, communication and tentativeness. It is not astonishing to find that he runs into many culturally generated snags despite the patient and open manner that is so obviously his own. It is much easier to take a strong promotional line that conforms to a pattern that has often led to the triumph of "causes" without transforming either the policy sharing volition or the capability of the "target" community.

The ACCESS concept of affording citizen groups a strong voice in local-regional planning and decision-making is a unique and worthy one. However, it is also a complex and time-consuming one to implement. A great deal of urban regional planning is currently underway in the Santa Barbara region, with some twelve projects involving such subjects as population trends, educational needs,

housing, and water resources and coastal development. ACCESS must find a uniquely useful role in this complex of on-going planning activities, and this utility must become evident to a cross-section of the region's influential citizens.

17. What time, budget, organization, and other suggestions do you have to make? For the design and review phase? For the 3-5 year project? There is need to fund a one- year period of consolidation, a Pilot Test, before the 3 - 5 year system test.

The project needs to quickly and carefully pick a concrete regional issue, benign to the future of the ACCESS project (but appealing to everybody), to demonstrate itself. This should be done at once. ACCESS is not ready to go to a 3-5 year test. The project should be attractive and ambiguous and not limited to one issue or one function. In the next stage staff should be trained; and there should be more emphasis on affective communications.

Policy research, data base assembly and simulation are not possible at this stage. Computers should be de-emphasized--the public is not comfortable with them. Instead, focus should be on improved public inquiry into policy issues confronting the region.

THE ONE YEAR PILOT TEST - TWO DEMONSTRATION ISSUES

The business of designing the ACCESS process was, in the Design Phase, of necessity somewhat abstract. Basic elements of the system--a site, essential information, participants, and methods for participation--had to be assembled and put into place.

During this time it has been difficult to assess the usefulness of ACCESS operations. This was recognized both by ACCESS committees and the evaluators. In a series of working sessions with ACCESS members in August, 1974, two pilot

issues were selected to refine the ACCESS process design and make it more concrete.

The Pilot Test of the project will address two specific regional issues chosen during the Design Phase by the citizens involved in the ACCESS project:

1) Fuel Breaks in the Santa Ynez Mountains, and

2) Water quality and quantity as it relates to population growth, density and alternative land use patterns.57/

In addressing the alternatives for these two issues, the project will be concerned with all ten elements of the ACCESS process design. (See Section III, CONCEPT, pp. 56 & 61.) In this discussion about the issues we will stress just four of them:

- The set of important Policy Questions which the ACCESS process attempts to address: (Problem, Causes, Impacts, Options, Impacts of Options, Implementation, Conditions for Success, Costs and Benefits, Criteria for Evaluation, Trade offs, Priority; and

- How to study and communicate about these important policy questions. (This involves Intellectual Tools; Social Processes; and Technological Tools.)

Fuel-Breaks

This test will focus on the issue of fuel-breaks on the Santa Barbara Front of the Santa Ynez Mountains. It is obvious that the public impact of creating fuel-breaks will be significant because the ridges constitute one of the region's most powerful visual pleasures.

57/See Section III, DESIGN PHASE, p. 58 for basic issues from which these were selected. Pilot tests could be developed around any of these issues.

There are alternative methods of clearing the ridges, but no matter which one is finally adopted, the impact of the fuel breaks will be highly visible throughout the South Coast Region. The seaward face of the Front and the Pacific Coastline bound the region's form which is that of a corridor. The horizon line of the sea and the mountains are its "walls" and the fuel breaks, like the existing offshore oil rigs, are likely to be extremely controversial.

But the fuel-break issue is one which involves not only questions about the alternatives of how to undertake fuel-breaks, but also questions concerning whether to create fuel-breaks and what the long-range impacts are if fuel breaks are not cut into the Santa Ynez Front.

It should be recognized that the immediate damage caused by a wildfire is not necessarily the most severe impact, especially when the fire occurs in rugged terrain adjacent to a heavily developed area. Typically, the fire removes substantial amounts of vegetative cover from the slopes it burns, exposing the underlying soil and rock materials to erosion. Winter rains then dislodge these materials, creating floods and dumping large quantities of sediment downstream in densely populated areas which may not have been at all affected by the fire itself.

Figures prepared by the staff of the Los Padres National Forest--whose boundaries include the section of the Santa Ynez mountains, known as the Santa Barbara Front, which rises directly behind the South Coast Region's population centers--indicate that the sediment deposition rate during the first winter after a fire can increase up to 43 times the normal. This can result in the removal of approximately 51,000 cubic yards of soil and rock per square mile of burned watershed cover.

Fire is a particularly urgent danger along the Santa Barbara Front both because of the extreme proximity of urbanized areas and the unusually steep slope of the mountains themselves. The slope is so great in most areas that it is impossible to use conventional fire-fighting equipment

(trucks, bulldozers, etc.). Fires must be controlled almost entirely by hand; in some locations the use of mountain-climbing gear or helicopter is necessary even to reach the ridges.

Forest Service officials nationally and locally are experienced in computer-assisted information and analysis, and are convinced of the need to achieve improved public involvement in policymaking. Los Padres National Forest supervisors have agreed to work with the ACCESS project to present to the public the reasons for undertaking the construction of fuel breaks, and the various implementation options. They have further agreed to incorporate the opinions of South Coast citizens derived from these presentations into their final determination.

Presentation. In presenting the fuel break policy options, the ACCESS project plans to use both static and dynamic computer-assisted visual presentations to study alternative possibilities. The actual site for the alternatives treatments will determine which portion of the Front is to be photographed or modeled. ACCESS will convene a special committee to make that selection.

To orient the viewer, a 1" = 2000' contour model of the South Coast Region and its vicinity will be tinted to match the Simulator model. A simulated helicoptor or plane flight over the 1" = 2000' model at a simulated elevation of 3,000 feet will quickly convey the overall effect of the fuel breaks and provide a means to relate the boundary of Los Padres National Forest to existing and pending development. (This model would also be used for the water issue examination). It would be on public display in the ACCESS "Regional Situation Room" in downtown Santa Barbara, positioned on the ACCESS conference table. It would provide a unique means of communication for community forums and would be photographed and videotaped in numerous demonstrations.

The Forest Service, with The Aerospace Corporation, has just completed the development and testing of the MOSAIC computer program for accurately relating potential fuel breaks to the contours of the land in a static mode. This is accomplished first

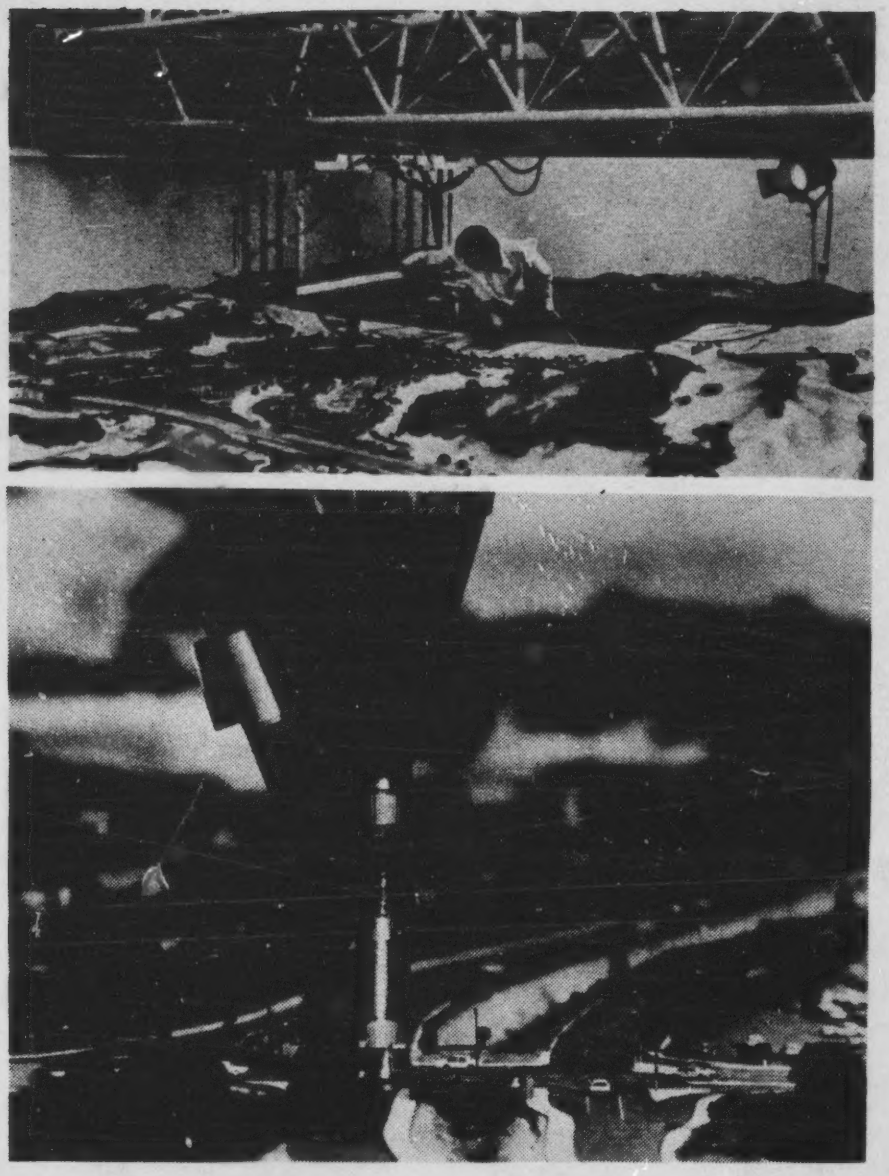
by digitizing the contours of the land in the vicinity of selected sites and then, by locating the fuel breaks on those contours. The contours of the fuel breaks are then overlaid on a color photograph of the site, taken from any vantage point.

Having precisely located the fuel break, the portion of it that can be seen from a selected vantage point is drawn in by an artist using an airbrush. The result is an accurate portrayal of the aesthetic impact of the fuel break. With the MOSAIC technique, alternative locations for fuel breaks and varying landscaping treatments can be examined readily.

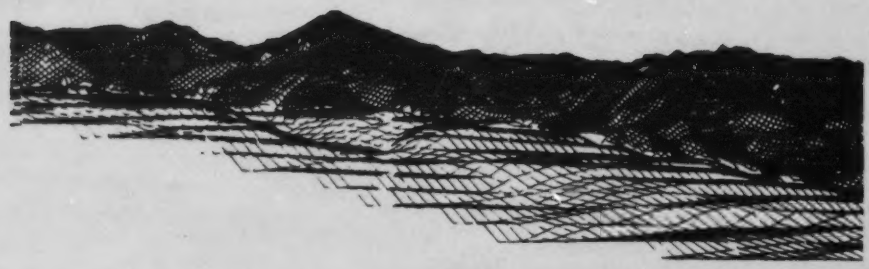
For dynamic presentation, the ACCESS project may also employ visual simulation technology developed at the University of California, Berkeley, under the sponsorship of the National Science Foundation (depending on availability as determined by NSF). The Berkeley Simulator is a sophisticated computer-guided device which drives an optical probe and camera assembly through small-scale models, producing highly realistic films, videotape or live TV output. A 16mm movie may be produced presenting the problem and each of the alternative solutions.

The basic Simulator model would be constructed at a scale of 1" = 200' except for the area immediately adjacent to the route of travel which would be modeled at 1" = 30' for the sake of achieving extremely realistic detail in the viewer's foreground. Each fuel-break alternative (clear cutting, selective cutting, landscape design and species substitution) would first be viewed in a series of oblique pans from a "vehicle" traveling along Highway 101. After a run of one-and-a-half to two-scale miles, for instance, the vehicle could turn off 101 onto San Ysidro Road for approximately three-quarters of a scale mile, stopping in a parking space which would allow a final 110° to 160° pan of the entire Front. Each of the four runs (one for each fuel break alternative) will last two-and-a-half minutes.

The total presentation of the fuel-break issue, however, must also, and with clarity, convey the fire, flood and landslide dangers to life and property. Obviously, all of this cannot be



HIGHLY REALISTIC DYNAMIC PERCEPTIONS of small scale physical models can be made by means of a special lens, suspended from a gantry. Movement of the lens is guided with the aid of a mini-computer. The motion pictures that result accurately simulate what a person would see at eye-level from a moving car. (photographs courtesy Environmental Simulation Laboratory, University of California, Berkeley)



A topographic grid is plotted to match a photograph.

A physical change is then defined on the topographic grid and accurately located on the photograph below.

ACCURATE STATIC PRESENTATIONS are possible with the computer program MOSAIC, developed for the U.S. Forest Service. A proposed physical change--in this case a fuel break in the Santa Ynez Mountains behind Santa Barbara--can be accurately located and then realistically portrayed by an artist. (courtesy Aerospace Corporation)

handled by either the dynamic Simulator or the static MOSAIC prepared photography. Other graphic/visual means must be used, including animation, diagrams and charts to convey social and economic impacts of policy decisions concerning fuel-breaks.

Water

The issue under discussion, water, is a highly controversial matter in the South Coast Region of Santa Barbara County. The manner in which the issue is handled, the openness with which Work Committees are formed, the manner in which challenges to data and information are treated, the extent to which information is used can contribute considerably to the credibility of the ACCESS project.

It is not presumed that in the one year Pilot Test there will be the once-and-for-all definitive contrast of alternatives concerning the importation of water. However, the method whereby a region can learn more about an issue of critical importance to it can be defined. Both quantity and the quality of water would be explored; including importation as well as conservation of water.

Throughout the Southwestern United States, including Southern California, the availability and quality of water is a major determinant of population growth and land use patterns. In effect, the nature of the local water supply--its quantity and quality--tends to limit the number of people a particular area can accommodate and the types of use to which the land can be put. If an urbanizing area, such as Los Angeles, increases dramatically in size, it is typically necessary to supplement the local water supply by importing water, e.g., from sources in Northern California.

The South Coast Region of Santa Barbara County is currently at the point where demand approximately equals the yield from the water sources available in the region. Demand in the South Coast Region was estimated to be 45,000 acre-feet in 1973, exactly the estimated obtainable supply from present sources. Most of the local water supply is held in two reservoirs, Cachuma Reservoir (22,900 acre-feet in

1973) and Gibraltar Reservoir (2,500 acre-feet). Four ground water basins yield an additional 12,500 acre-feet.

Without a major breakthrough in regional water conservation, including recycling, the existing water supply in the South Coast Region will not be adequate to permit population growth in the long term future. The region's limited supply of water also does not permit any restructuring of it's economic base if that would significantly increase water demand. Whether or not this fact is considered fortunate depends upon the point of view of the particular citizen or decision-maker. Many residents of the South Coast Region, anxious to stop or severely limit population growth, regard the restriction of the water supply as a powerful means to achieve that control. Others, believing that some growth is inevitable, desirable, or both, wish to expand the present capacity of the water supply system. The issue is an extremely controversial one throughout the South Coast Region.

A great deal is at stake--the region's unique "Quality of Life," its future economic viability, its relationship to the major urban centers to the south (i.e. Los Angeles)--and, therefore, the subject of water has been continuously debated in recent years in political campaigns, in the media and as a topic of everyday conversation.

The problem of water supply and quality has been extensively examined by a number of public agencies and consultants. (Greatest emphasis has been on quantity, although the quality of imported water would be of real significance to agriculture, water softening and the taste of water.)

Four alternative Year 2000 projections concerning water supply requirements, population growth and land use mix are developed in the Toups Report.58/ This report and a new one by the County, Livingston and Blayney's studies for the General

58/Water Resources Management Study: South Coast--Santa Barbara County, 1974. Toups Corporation of Santa Ana, California.

Plan revision, will form the basis of the ACCESS presentation. Minor refinements of the projections will be made from the County and Agricultural Extension Service data. In effect, the projections constitute (as amended by both quality and conservation) a set of options, each with distinct costs and benefits, about which the South Coast public may conduct a policy dialogue concerning the important policy questions outlined above.

Presentation. The first portion of the ACCESS presentation, would be devoted to an analysis of the existing patterns of water supply and consumption, population distribution and density, and land use in the region. This introductory portion of the presentation would include data and graphic materials obtained from NASA's remote sensing programs. Satellite photography and a physical model would be used to "zoom in" on the region and its various communities, thus providing a context, or rather, a graduated sequence of contexts, for the presentation.

The relation of this information to present land data would be shown. There are particular capabilities for this purpose in the Santa Barbara region. The University of California, Santa Barbara Department of Geography holds contracts with NASA now for remote-sensing interpretations (The sensors themselves are assembled by the Santa Barbara Research Center, a subsidiary of Hughes.)

Three 1975-2000 projections or alternatives would be displayed as computer-generated diagrams depicting land use in 1980, 1990 and 2000. (In the demonstrations described above, the three Year 2000 "futures" would be treated as alternative possibilities--zero, moderate and significant growth.)

Land use and population distribution and density would be shown for each alternative in solid colors on a perspective drawing of the South Coast Region generated by computer, then animated to show growth and change. Further, it will be possible to "window" or "zoom in" from an overall view of the region, to a community area, down to a grouping of buildings.

This display of alternatives can be accomplished within the scope of the one-year Pilot Test by:

(1) digitizing hand-drawn maps consisting of land use and population planimetric data with topographic information available from Project FIRESCOPE (Riverside Fire Laboratory, U.S. Forest Service); which is

(2) input to computer program GDS* (Graphic Display System); then

(3) interfaced with program MAPIT*; which

(4) can either be output via program IGOR*59/ in hard copy using an optical reproduction machine or by color display monitor (driven by three scan conversion memories for 1024 x 800 points).

In addition, the 2000' scale topographic model would be used for orientation purposes, and other visual media as appropriate.

Television Format for the Two Issues

The basic procedure which the project would use to study and communicate about the two issues involves the creation of two one-hour long visual productions; one hour for each issue, broadcast on KEYT and then replayed on Santa Barbara Cable Television.

Each television production would have the following components (in each of which every attempt would be made to make the selection of citizens and community groups involved diverse and representative):

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*59/In-house programs of the Remote Sensing Project at UC Berkeley. GDS is a highly developed graphic routine which allows perspective display and transformations which eliminated the "hidden-line" problem.

(1) a filmed or videotaped analysis and presentation of the issue and the important policy questions with respect to the issue, prepared from work of the ACCESS Work Committees, staff and consultants (about 15 minutes);

(2) a filmed or videotaped reaction to the ACCESS analysis and presentation of alternatives, by selected citizens and community groups (about 10 minutes);

(3) based on (1) and (2), and following them, studio dialogue concerning the issue, moderated by the ACCESS project and stimulated by, but not confined to points raised in components in (1) and (2), to be filmed or videotaped (about 20 minutes);

(4) live, phone-in reaction to the ACCESS presentation and to the subsequent discussion (about 10 minutes or more);

(5) summary by the moderator or moderators (about 5 minutes).

The visual productions, in videocassette form and edited versions of them, would be on ACCESS's video-player. Citizens would be able to select and view the alternatives and reactions to them at the ACCESS Regional Situation Room (and elsewhere). They would be encouraged to register general reactions, observations and preferences on prepared forms.

The ACCESS process would be tested and completed using the selected regional issues. The one year Pilot Test would explore the credibility of the ACCESS process, its capability to select and process relevant information, to visually communicate policy alternatives to policy-makers and to enhance public involvement.

For each regional issue, ACCESS will organize committees

which would help to define alternatives, and edit their presentation. The visualizations that result would convey the alternatives for the new selected policy issues to representative community groups. Reactions at these meetings would be added to the total program. The ACCESS process, which examines alternatives, and the diversity of its sponsors and members, are, in themselves, safeguards which assure objectivity. Work on the specific issues selected for the one year Pilot Test would demonstrate that fact and would suggest how the process design might be improved.

Discussion

This effort would be made in a way that recognizes the potential threat inherent in any powerful new means of communication. The ACCESS project must demonstrate in its one year Pilot Test that its interactive visual display of information is part of a process that prevents:

(1) centralization of information closed to public examination, challenge and use;

(2) invasion of proprietary and personal information; and

(3) manipulation of data and information that distorts or forecloses thoughtful study of alternatives.

Policy-makers with differing viewpoints would themselves also be involved in the actual creation and use of presentations of alternatives for television broadcasts. This includes also, importantly, the videocassettes stemming from those programs as used by small groups in dialogue. The Work Committees organized for this involvement would be supported by consultants and staff work.

"Choices for '76" by the Regional Plan Association of New York, "Alternatives for Washington" (state) and a Maine television series funded by HEW made use of television in exploring public

issues, reaching about ten percent of the possible viewing audiences. These have been useful experiences, helpful to the development of the ACCESS process, but they will not be repeated. Computer assisted graphic images were not part of those programs, nor were they produced for a "Regional Situation Room."

The power of visual means of communication, within a total process, would be studied in the ACCESS Pilot Test. All presentations would be formatted to be compatible with television (to make them widely available), but broadcast is not their only use. There is more happening to be tested than can be learned from television market research surveys. The major instrument for graphic presentations would be the "Regional Situation Room," involving many levels of policy-makers, "covered" by television.

Through the "Regional Situation Room," people can understand options for solving regional issues in their world, national and state context. The local perceptions of a national issue may be quite different than the national ones. Both levels can be, and choose to be, quite ignorant of the validity in each other's perception. Yet, national policies must all be implemented "locally." The visually equipped "Regional Situation Room" should assist understanding of the interrelationship of national policy and local implementation.

Actual implementation of a national energy policy, for instance, tends to happen in some "local" place, from resource extraction, transport and processing, to the generation of electricity and its distribution. National policy not made in Santa Barbara (but affected by Santa Barbara interests) has important effects on oil drilling off the coast of Santa Barbara, transport in the ocean channel, and on-shore processing.

A supertanker port and processing facility off Point Conception, for both Indonesian and Alaskan liquefied gas, are current subjects for national environmental impact studies. Another energy

matter for future debate is additional power generation capacity in the region to serve a block of western states.

How is balance to be achieved? When should regional preferences prevail over existing national policies; or vice-versa?

The omni-presence of various types of uncertainty, the distribution of political power and a variety of other factors lead to the conclusion that absolute "answers" or "solutions" of the type that can be specified and achieved in chess, for example, do not exist for the sort of issues which concern the citizens of the South Coast or any other region of the world.

The fact that there are no unqualified, certain answers does not mean that issues should not be raised and debated. On the contrary, that uncertainty requires intense and widespread public discussion of problems, policy and action. If definitive solutions existed, then individual, highly-skilled technicians might be trusted to discover them. But because solutions do not exist, because the best that we can do is constantly to "re-solve" problems or formulate approximate answers, it is necessary to subject the issues confronting us to the broadest possible scrutiny and debate, and to develop a spectrum of policy options. The ACCESS process recognizes this and attempts to provide a process which involves such an approach.

THE ONE-YEAR PILOT TEST - DESIGN OF REGIONWIDE SYSTEM COMPONENTS

The presentation of the two regional issues provides a means to simulate and to refine the ACCESS process. To complete the ACCESS design during the Pilot Test, certain components of the regionwide system must be studied or designed in greater detail than was previously possible. Concurrent with the two pilot test issues, the project would undertake six studies (see below). The results of these studies would be disciplined by the reality of their actual use in the 3-5 year Regionwide System Research Demonstration, the next logical stage in the evolution of the

ACCESS process. (The Design Elements, [pp. 56 & 61] to which the six studies would relate, are given in parentheses below.)

Geo-Based Data Techniques Dialogue
(Intellectual Tool)

A state-of-the-art three day technical workshop will help the ACCESS project select and price the techniques to be used to structure data concerning the South Coast Region. Continuing from the workshops of the Design Phase 60/one of the three days would provide for discussions with the policy-makers who could use a geography-based information system (city and county officials, their boards and staffs; professionals; educators; private decision makers; non-profit citizens groups; voters).

Data related to specific operating functions within the region (such as property descriptions, plats, assessments, zoning, public works, commerce and industry, traffic, utilities, housing, water, sewer) would be maintained by the organization that presently has responsibility for and greatest use of that data. That data would be coded, indexed and put into compatible computer format so that it could be easily accessed from remote terminals, and spatially displayed in relation to other data and information.

The grid and polygon means of coding information would be evaluated as well as the uses and techniques of remotely sensed information. Experiences of NASA, recent studies of the Interior Department's RALI program, and others would be incorporated. (See the Utilization subsection of Section IV, DESIGN PHASE, p. 103.)

Bibliography of Data and Information Sources
(Intellectual Tool)

The ACCESS process will need traditional library storage techniques tailored to the special purpose of regional policy formulation. However, the volume of accessible data required, the multiplicity of

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60/See Resource Papers (1-3), APPENDIX, p. 174

sources and interpretation into ordered information require that information to be put in machine-readable (computer) form. In the Design Phase the UCSB student survey verified the difficulty of even locating information.61/ During the one year Pilot Test, a machine-readable bibliography of sources of data would be compiled. The cost of this beginning effort has been estimated by the University of California, Santa Barbara from Design Phase studies by ACCESS staff and consultants.62/ This study would provide realistic designs and estimates of data and information costs for the 3-5 year Systems Test, including the extent to which a computer assisted data base should be developed. (At the same time, a useful policy-making tool will have been acquired.)

Tabulation of Research Resources (Intellectual Tool)

To facilitate people's access to expertise and to each other, for the purpose of making policy, this study would put into machine-readable form the specific capabilities of people and institutions of the region. This inventory was begun in the Design Phase. The experience gained with survey forms and their distribution has served as the basis for estimating the cost of this listing.63/ It is recognized, for instance, that certain private consulting firms have a proprietary concern about specifically naming people and skills in their employ. Yet, persons as private citizens have skills they may want to employ for the benefit of the region in which they live, but have no ready means to do so. There was no roster of such skills in the South Coast Region when the ACCESS project began its work. What has been developed by the ACCESS project is only a beginning, yet it provides an estimate of what would be required to make such information easily accessible to all.

61/See Resource Papers (1-1), APPENDIX, p. 173

62/See Resource Papers (1-3, 1-4, 1-5, 1-6), APPENDIX, p. 174

63/See Resource Papers (2-1, 2-2, 2-3, 2-4, 2-5, 2-6), APPENDIX, p. 174

The Organization of ACCESS (Institution-Organization)

Once the nature of the ACCESS process was established with ACCESS committee members during the Design Phase, study began on the organization of people required to operate the ACCESS process. Since January 1975, a committee has examined and discussed with members of the ACCESS Advisory Board the formal form of organization required.

For the Pilot Test, the ACCESS project will become a new section of the 501(c)4 non-profit Community Arts Association, incorporated in Santa Barbara in 1923.64/

A major task of the Pilot Test is to define a national prototype organization for the ACCESS process that is:

(1) able to service information and analysis requests from policy-makers of all sorts (elected government officials and corporate executives to environmental groups and interested individuals);

(2) representative of the people and institutions of the region;

(3) legally qualified to receive grants and execute contracts for services rendered.

The purpose of the ACCESS project is to design a process which supplements official long-range policy-making with a higher order of data, better information, and more skilled technical analyses, through two-way graphic telecommunications and individual participation that has not yet been possible anywhere in the nation. The particular emphases of the ACCESS process are both to make information and analysis of alternatives more

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64/See Resource Papers (3-1, 3-2, 3-3, 3-4, 4-1) in the APPENDIX, pp. 174-175

available and understandable, and to give the people of the region a responsible means to make known their priorities, attitudes, and abilities in order to help resolve the region's problems and enhance their Quality of Life.

The ACCESS project is an original effort:

(1) to collect and order regional data and information;

(2) to analyze, [illegible]thesize and convey information and a[illegible]sis of alternative policies;

(3) to stimulate the integration of separate data bases;

(4) to stimulate policy dialogue, informed by research, for expert and citizen participation;

(5) to develop a new order of graphic communication for policy research and development concerning future alternatives;

In a way that:

(1) is distinct in purpose from existing institutions, but supplementary to them;

(2) facilitates the use of lay and expert volunteers in conjunction with a skilled staff and consultants, bringing to bear high orders of technology, as appropriate; and

(3) devises sources of funding and schedules of user charges which support the process in a manner which assures continuity and objectivity.

The expertise of the University of California will be made available to policy makers by means of its Community and Organization Research Institute, working through the Community Arts Association.

The ACCESS process must satisfy a broad range of "publics," skills and motivations without seeking

a specific resolution for a particular problem. This will require an organization that includes in its By-Laws provision for representatives of the professions, business and labor; education and culture; and public interest organizations. This must be accomplished in liason with governmental entities and unincorporated areas of the region in such a way that there is representation of geographic (community) interests and of age, income, ethnic and minority groups.

Operational requirements of the ACCESS process, besides funding, include:

Staff

- administration
- interdisciplinary policy analysis--social, economic, physical
- computer programming operations
- graphic communication
- information system management

Consultants

- university departments
- governmental agencies
- private corporations
- contracted individuals

Volunteers

- policy board members
- work committee members
- staff--contributed time; partially paid
- consultant--contributed time; partially paid

Facilities

- central work place--"Regional Situation Room"
- community and neighborhood meeting rooms
- telecommunications equipment and programs
- reference files

Means to Involve Hard-to-Reach Publics (Social Processes)

A major concern of ACCESS from its inception has been broad representation from all age, income and ethnic groups.

ACCESS would make an organized effort to involve the hard to reach public during the one year Pilot Test, especially the Chicano community (28% of the region's people). An independent 5-7 member policy committee, representative of various Chicano groups in the region, is planned. The committee would be serviced by professionals who would work with the ACCESS Pilot Test as part of their effort to make comprehensible the long term consequences of current regional policies and decisions. The objective is to learn how to help the Chicano groups develop an ability to see how regional interests and their own future long term interests interrelate, and to help them take a more active part in the long range policy making process.

Graphic Telecommunication Facilities and Systems (Technological Tools)

For the one year Pilot Test, a minimal amount of equipment will be used in the Regional Situation Room. (See Section IV, DESIGN PHASE, p. 100.) How should this be expanded to a region-wide system?65/ Graphic display in the "Regional Situation Room," designed especially for this purpose (and televised), provides the means for many more people to become aware of the "different realities" of the region as derived from different perceptions of the same regional data, information and analysis. This new awareness, learned in a neutral forum, should help people move from ideological advocacy of fixed positions to dialogue about possibilities. By reducing ignorance, uncertainty and sense of risk, people with naturally conflicting interests may more readily discover what they share, and be more prepared to work toward consensus.

To facilitate analysis, synthesis and communication on issues of moment to the region, ACCESS would make appropriate use of telecommunications technology. However, ACCESS would not itself make actual regional policy choices. Public and business decisions would be made where they are now. The effect that is intended is to alter the agenda of policymakers, to better

65/Much of this subsection is edited from Graphics for Regional Policy Making, pp. 7-15.

illuminate their choices, and to involve many more people in the total policy-making process. The decisionmaker would have a much better informed constituency and conversely. Even without the power of decision, a competent, credible, non-profit regional institution, such as ACCESS, with continuity and its own base of communication, would provide the region with a significant new means for policy dialogue from which should arise better understanding about regional issues and options.

Another practical discipline of the ACCESS concept and design is to select, test and cost facilities and telecommunications equipment for the 3-5 year Region-wide Systems Research Demonstration and to design the system in which they would be combined.66/

To date, two-way television has been oversold and under-delivered, but that does not negate its potential. In 1976, three full-scale community demonstrations financed by NSF are underway. For purposes of regional policy-making, technology is available, but it is not believed practical to begin with use of two-way television from Regional Situation Rooms into each home of a community. A more appropriate beginning would appear to be multiple "Situation Rooms" of different degrees of complexity within a region, for either separate use or simultaneous interaction.

The ACCESS project would, in the 3-5 year Systems Demonstration Test, equip a Regional Situation Room which would be tied into computer-based information sources and terminals/receivers in communities and neighborhoods throughout the region. (Such a system in use would provide a research base for studies in visual perception, information assimilation, learning and communication.)

For active policy-makers the detail of images, presentation of data, and the ability to "interrogate" various kinds of data sources might be considerably greater than for the public at large.

66/See Resource Papers (5-1, 5-2, 6-1), APPENDIX, p. 175

One feature might be an on-line, computer-based "conferencing" arrangement. Numerous individuals could "confer" with each other at times of their own choosing, with the computer holding a record of all messages until accessed by "conference" members using computer terminals at different geographic locations throughout the South Coast Region.

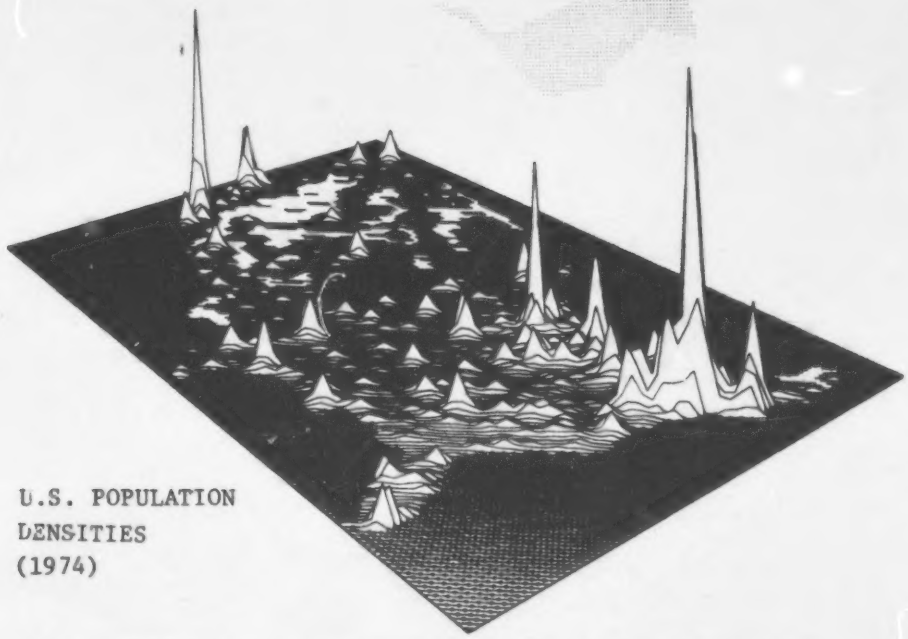
The selection of computer terminals is critical to the goals they are to serve. Present terminals, and the programs they use, have been developed largely by or for middle management for operational purposes. If computers are to be used effectively for policy-making, adaptations of certain equipment and programs seem needed. Computer terminals should offer policy-makers:

(a) response to unstructured questions;
(b) visual display that is capable of continuous tone, color and movement;
(c) larger-size (than is typical now) display letters, in both upper and lower case;
(d) hard copy of any display;
(e) audio as well as visual responses;
(f) audio as well as graphic and keyboard inputs;
(g) interchange with other terminals in all modes (audio, graphic, keyboard, etc.);
(h) access to data for personal use at place of work, in designated public places (such as schools, or libraries or community centers) and at home;
(i) access to data for dialogue purposes in specially designed "Regional Situation Rooms".

Some of these capabilities are available now, but not all, and they would be needed in varying degrees of completeness at various locations. The "Regional Situation Room" would be the most completely equipped. Computer backup capacity for the "Regional Situation Room" could be by telephone line to commercial or university facilities. Simple means to make inquiries should be made possible for any user. It is probable that a number of different programs and computers will be needed.

The concept being considered here is not that there is one big computer program to be developed that can automatically arrive at the best decision,

PREDICTED ANNUAL CARBON MONOXIDE LEVELS (PPM) FROM TRAFFIC - 1970



U.S. POPULATION DENSITIES (1974)

COMPUTER-GENERATED DISPLAY OF DATA and "instant" graphic response to viewers' "what if" questions, can be programmed in black and white or color, animated or static, for a Regional Situation Room. Ultimately, by means of coaxial TV, this information exchange could be made available throughout a region. (illustrations courtesy Laboratory for Computer Graphics and Spatial Analysis, Harvard University)

given the data on any particular conservation or development problem. Rather, what is proposed is to use a variety of computer programs to store, retrieve, compute, and display information--or to provide other specialized capabilities, such as to generate computer assisted graphic presentations, including "walks" through proposed projects. Programming for graphic displays responsive to unstructured query of information bases seems quite important to attempt.

Dealing with different computers and their different programs, at their present stage of development, is like dealing with Swedes, Chinese, Italians, Frenchmen and Englishmen all at once. They may, or may not, all "understand" the same basic language; but they are not necessarily individually compatible (interchangeable). It is therefore necessary to have persons present to whom specialized questions could be put. Each would operate the computer terminals in his own special area of expertise. In a "Regional Situation Room," information might be divided into areas such as social, economic, physical, cultural and political, each with its own "specialist." If questions requiring especially powerful computation capacities were asked, the specialists concerned could turn to a special terminal for this purpose.

THE ONE YEAR PILOT TEST - EVALUATION

Typically, persons responsible for organizing a "new setting" do not provide for a sympathetic, but independent external evaluation to strengthen the formation of that venture.67/ Too often, therefore, good intentions are subverted by the stress of the setting's evolution and the rationalizings of those directly involved in its success. Not only do events which might have been prevented occur, but a learning experience is missed. In contrast, the ACCESS project incorporated, in the Design Phase, outside site visits, a national

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67/Sarasan, Seymour B., Creation of Settings, Jossey-Bass, 1972

mid-project evaluation and peer reviews. It is planned that the sophistication of the evaluation will grow with the project in the one year Pilot Test, and beyond.

The ACCESS project is attempting to invent a new regional process--the organization of a new setting as a national prototype. ACCESS, therefore, needs to match its actual policies, organizational design, and operations to its goals. For each of these aspects of the Pilot Test, ACCESS proposes independent qualified evaluations by persons of recognized competence as well as sympathy with the purpose of ACCESS.

The evaluation of the Pilot Test would be designed to address several specific but interrelated questions:

(a) To what extent do the goals of the project help to meet the educational, informational and decision-making needs of the Pilot Test "region," or other regions in the country?

(b) To what extent does the overall approach taken promise achievement of the goals?

(c) What are the impacts of the activities undertaken during the Pilot Test, and to what extent do the various components (specific activities, technology, environments, e.g. Regional Situation Room, feedback mechanisms, etc.) of the total process contribute to the achievement of the project's goals?

(d) How effective can the ACCESS process become, from the perspectives of cost vs. outcome in terms of, for example; the utility to the decision-maker; education; informed participation and hence the influence of the citizen in the decision-making process; and prognosis for the long-term quality of life in a region?

(e) How and under what minimal conditions (funds, physical resources, expertise, people, etc.) is the process transferable or adaptable to

other regions of the country?

(f) What changes were effected in the project as a result of the feedback, monitoring, and self-evaluation mechanisms? To what extent were these changes a function of the project location as opposed to shortcomings or oversights in the overall project design?

(g) Based on the above, what are the criteria, guidelines, etc. for pursuing effective alternative or modified approaches? and

(h) Overall findings, conclusions and recommendations for further study and action.

The ACCESS project places emphasis on involvement in "policy dialogue, informed by research, which makes appropriate use of science and technology assisted by graphic telecommunications." To deal with "the complexity of reality" ACCESS proposes to make use of computer-assisted graphics. The ACCESS project will use and evaluate in different settings, various techniques of verbal, visual and computer-assisted visual presentations concerning the two selected pilot issues.

The evaluation of the Pilot Test is expected to provide an independent assessment of the workability of the ACCESS concept with respect to the design elements that are involved in the two pilot issues. The evaluation will be independent in the sense that evaluators will be researchers from the faculty of the University of California, Santa Barbara (and others) not involved in the development or implementation of the two pilot issues. Such an evaluation is essential if potential grantors are to consider the allocation of further resources to broader scale experimentation with the ACCESS prototype. Such an evaluation is also essential, if this test is to be used as a justification for the Santa Barbara community to proceed on its own with similar projects, or if other communities are to make use of the ACCESS prototype, as it has evolved thus far, in designing programs to use the ACCESS concept to help solve their own policy problems.

An interdisciplinary action-research project such as ACCESS is unlike a basic theoretical research experiment in one of the natural or physical sciences. ACCESS is an evaluative research project.68/ The question, therefore, as Suchman has said, is not "Is evaluative research scientific?" so much as "How may evaluative research make the best use of research designs and techniques?"69/

As the number of contingent factors increases, the number of variables over which there can be control decreases. The rigor of evaluation must grow in ways other than more precise control of isolated variables. A restatement here of the goal of the ACCESS project and its basic assumptions will establish the conditions of the Pilot Test evaluation.

Objectives and Assumptions of the ACCESS Project

The goal of the ACCESS project is to verify and demonstrate a multi-faceted process which can increase the effectiveness of the policy-maker with regard to actions which affect the quality of human settlements--the physical, cultural, social and economic environment of a region. ACCESS assumes that the most recurring and pressing policy-making tasks within a region require:

(1) consideration of complex, interrelated and interactive facts, elements, issues (including scientific, technological, economic, social and political);

(2) consideration of the long-term as well as immediate consequences of decisions concerning the total "environment" of the region;

(3) education or self-education of all who take part in the policy-making activity;

68/See pages 6, 56, 69, 124

69/Suchman, Edward A., Evaluative Research, Russell Sage Foundation, New York, 1967, p. 85

(4) the involvement of an informed citizenry, and in different ways depending on the nature of the problem or issue; and

(5) easy access to data, methods and other resources, appropriately selected and "packaged" for objective, comprehensive, and comprehensible communication.

These assumptions, and therefore the process to be tested, address policy making in its various phases, forms and purposes (e.g. planning--urban, regional development, housing and community development, transportation, energy [generator siting, power transmission and distribution, conservation and demand], land use, and other resource use and allocation; assessment--technology, environmental impact; implementation--coastal zone management, water supply and quality control, air quality control; communication and education--citizen and policy maker study of problems, options and impacts affecting the quality of the total human environment).

The ACCESS process incorporates the exploratory use of:

(1) structured policy dialogue among individuals with different backgrounds and interests in order to identify appropriate value-sensitive contexts which can help in considering regional issues and options;

(2) interactive computer graphics and other visual media, as an approach to effective communication about complex policy problems in unbiased and interdisciplinary ways;

(3) creative environments (i.e. the regional situation room) to encourage self-education, participation and informed input to the information base and to the policy making process by interested citizens;

(4) dissemination mechanisms to keep the general public and decision makers informed; and

(5) a variety of methods for feedback and for evaluation of the total process and its various components.

Evaluation Approach 70/

Established social science techniques will be used to evaluate certain aspects of the ACCESS approach with the public and with decision makers within the community. The extent to which given information flows reach an audience and become a part of the fund of knowledge used by the public and by decision-makers in discussing public issues can be measured by a variety of techniques. These include attitude surveys and interviews with the general public, with stratified samples of that public, special interest groups and leadership groups.

Controls are needed in order to distinguish between the impact of the ACCESS approach and the flows of information that take place without ACCESS. The project will therefore use non-community participant subjects and study issues for which the ACCESS approach is not provided.

The following question has been selected as a priority for examination through the two regional issues of the one year Pilot Test: What are the impacts of graphic communications combined with policy dialogue?

The principal assumption of the ACCESS process is that graphic displays will have an impact on the level and quality of information held by the general public and by decision-makers. Such displays will be provided by various techniques: television productions, graphic presentations to small audiences both in special interest group settings as well as in the Regional Situation Room set aside for that purpose. While it is impossible to control for extraneous influences, the assumption is that the ACCESS approach to information communication will make a significant difference

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70/This description draws upon both ACCESS project and University of California, Santa Barbara evaluation designs. The latter was contributed in December 1975 under the direction of Dean L. Mann, chairman of the UCSB Political Science Department.

in knowledge, understanding and perspective on vital public issues. That difference should be subject to measurement.

Some communication flows will be directed at the general public through broadcast television, through cable television and through a two-step process from leaders of organized groups to the membership of those organizations. Survey research will be the principal instrument for obtaining information on the levels of information, understanding and attitudes before and after use of the ACCESS approach. Before the ACCESS communication process begins, one survey will be made of a random sample of the general population of the South Coast area. This survey will provide a baseline for measurement of change upon the application of the ACCESS techniques.

Not all ACCESS techniques will reach the entire population, however. Some graphic presentations will be made to specific groups, and questionnaires will prove useful to measure changes caused by specialized techniques.

ACCESS will use several methods in the evaluation activity, with emphasis on flexibility, creativity, accountability and suitability of the evaluation to the nature of the evolving process, the complexity of the issue and the inherent requirement for a "systems" approach to assessment and forecasting. The methods for evaluation will be drawn from those used in traditional research, technology assessment and general systems planning.

Specific research hypotheses to be investigated include:

> Graphic display techniques (e.g. simulation via physical models, animation, computer generated imagery, etc.), combined with policy dialogue increase:
>
> A. Understanding of issues, options and impacts;
> B. Involvement of policy makers and the public;
> C. Perception of the utility of being able to interact with graphically displayed information combined with policy dialogue.

The "one-shot" survey is a method which might be used to investigate the impacts of graphic communication combined with policy dialogue, and to test the hypotheses outlined above.

The basic reference for the one-shot survey is Campbell and Stanley's Experimental and Quasi-Experimental Design for Research, Chicago, 1963.

Such a survey is a compromise between controlled experimentation and simple survey research. Controlled experimentation attempts to control all the variables, impossible in this sort of social circumstance. Simple survey research, such as that which Gallup and Harris perform, does not attempt to take into account exogenous information inputs of the moment, the history effects, which can skew a whole survey at any given time.

The one-shot survey, to oversimplify, does its best to account for history effects and to identify and deal with variables. It is self-conscious about how survey questions are put and the nature and control of the social process in which they are used. The one-shot survey skillfully sets out to determine what the correlations are in a given circumstance. It doesn't prove anything. It attempts to indicate clearly.

Another strategy will be adopted to evaluate the impact of the various components of the ACCESS approach. Essentially this will involve presentation of information to student groups on the University of California, Santa Barbara campus, using alternative presentation techniques of the ACCESS project, as well as other more traditional approaches to communication, especially written materials. Measurements of differences of levels of information, understanding and changes of attitudes will be possible under highly controlled conditions. Students in the environmental studies program at UCSB will be suitable subjects, and there are excellent experimental facilities available on the campus.

Because much of the communication will be directed toward the leadership of the community, it will be necessary to conduct before and after interviews with a sample of this group. To the extent possible, assessments will be made of movement in information levels, and attitudes on both the two issues selected for ACCESS techniques and for the ACCESS project itself.

The explorations with the ACCESS project in the Santa Barbara community do not include study or evaluation of decision-making processes, although the focus of the proposal is on the need for a regional approach which emphasizes broad environmental and long-term consequences. Nevertheless, the ACCESS project does stress the potentiality for increasing community consensus on issues and facilitating the resolution of community conflict.

An additional strategy would involve a monitoring effort to determine the response of individuals in various forums where groups with presumably opposing viewpoints interact. Trained observers would monitor the extent to which issues are narrowed or broadened, the levels of intensity of feeling, and the degree of polarization.

Evaluation Methods

To summarize, the evaluation will report on what has been learned from the Pilot Test about the ACCESS project policies, organization and operation and about the impact of the ACCESS process policy dialogue combined with graphic communications. In addition to a project overview by a national evaluation panel, the following will be undertaken:

(1) Population Interviews: personal interviews with a sample of residents at two points, before and after ACCESS intervention.

(2) Leadership Interviews: approximately 100 interviews conducted from a relevant sample of representatives from organized segments of the population.

(3) Controlled Experiments: paid student subjects tested for response and information

level, involving possible use of UCSB lab facilities.

(4) Monitoring of Group Meetings by Participant Observers: skilled behavioral scientist observations at the time of ACCESS policy dialogue supported by graphic techniques.

The complexity of this evaluation does not negate the need for it. Quite the contrary. An applied social sciences policy research project as concerned as the ACCESS project is with complex information handling and the involvement of policy makers, would seem ill-conceived if it did not propose a maximum effort to understand the impacts of its efforts to communicate. But it will take the 3-5 year Regionwide System Research Demonstration and Verification to judge specifically performance of the ACCESS process for criteria such as:

- effectiveness in relation to solving a policy problem
- cost effectiveness for scope and scale of services offered
- transferability to other regions
- degree of local conflict - cooperation - consensus
- evolution of the regional process
- changes in individual visual perception and thought

THE 3-5 YEAR REGIONWIDE SYSTEM RESEARCH DEMONSTRATION

Purposes

The ACCESS project, upon completion of the one year Pilot Test, proposes to initiate a 3-5 year Regionwide Research Demonstration and Verification. The purposes of the demonstration would be: to test the ACCESS project prototype of the "voluntary association" mentioned by De Tocqueville, updated to this fast changing Technological Era; to integrate science with other elements of society; to develop access for people to expertise and to each other which recognizes the powers of science and technology and guides them with greater awareness of human values; to strengthen the capabilities of citizens and the independent sector in the process of regional policy-making; and to evolve a process

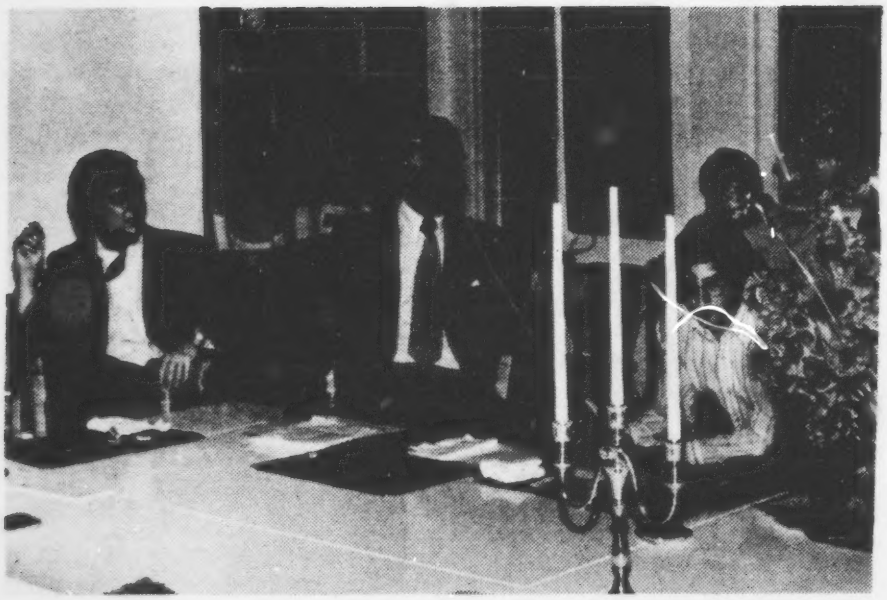
of analysis, perception and communication of the consequences of pending decisions, and possible alternative futures, which is as dedicated to long range outcomes as most present institutions are to the short term.

Functions

The functions of this 3-5 year Research Demonstration would be: to foster policy dialogue on a regional scale; to serve as a clearing house for reference sources, information and participatory processes; to stimulate the perception and exploration of whole ranges of possibilities and their future consequences without taking policy positions; to facilitate the experience and mastery of the dramatic technology of modern graphic telecommunication, and demonstrate its ability to make the complex and intangible more comprehensible to decision makers and lay citizens; to educate concerning the unique resources of the region, its people and their values; to develop a regional sense of community and awareness of the interrelatedness of forces for change acting simultaneously at regional, county, state, national and international levels.

There is no estimate as yet of the total cost of the ACCESS analysis/synthesis/communication process for regional policy making under discussion here. Important questions have yet to be addressed. What technological systems are available and feasible now? What may become available? How extensively might they be used? What are the benefits to policy making? What criteria are to be used to evaluate costs and benefits? (This should include assessment of the waste and social damage prevented by the ACCESS process.) Who might share use and cost of facilities (for example: television companies, government, research, businesses, schools and universities, civic groups, etc.)? At what scale of region would which services be cost effective? When?

To answer such questions is work for the 3-5 year Regionwide System Research Demonstration.



ACCESS ADVISORY BOARD, FIRST MEETING, October 25, 1974. At the conclusion of the Design Phase, ACCESS members selected a 29 person policy board. Dan Wormhoudt, University of California, Berkeley, ACCESS staff consultant, at left, with board members William Wittausch, Citizens Planning Association, and Larry Padway, community activist, Isla Vista. (photograph by Randall Smith)

VI. Appendix

VI. APPENDIX

ACCESS PUBLICATIONS AND VISUAL PRODUCTIONS

RECONNAISSANCE

The following two reports were contracted investigations for The National Science Foundation, which led to the ACCESS project Design Phase.

Ewald, William R., Jr. ACCESS, The Santa Barbara Regional Pilot Process, July 1973 (54 pp.)

_____ Graphics for Regional Policy Making, A Preliminary Study, NSF, August 1973 (65 pp.)(available through NTIS)

BASIC REPORTS

Ewald, William R., Jr. Information, Perception & Regional Policy, ACCESS Project Design Phase, Final Report to the National Science Foundation, July 1975 (210 pp.)

_____ ACCESS DESIGN PHASE, Report to the South Coast Region, November 1974 (84 pp.)

_____ (et al) ACCESS Design Phase Documentation, Volumes A & B, November 1974 (500 pp.)

BROCHURES

Ewald, William R., Jr. "Telecommunication - to Facilitate Regional Policy Making." (paper for the IEEE International Conference on Communications, June 16-18, 1975 San Francisco) (4 pp.)

_____ (et al) ACCESS Q: Who Needs It?, December 1974 (14 pp.)

_____ (et al) Newsletters, Issues 1 and 2, February & March 1975 (8 pp., 16 pp.)

_____ "Choices and Consequences - Rationale for ACCESS," (paper for The Center for the Study of Democratic Institutions" dialogue, April 1, 1974) (5 pp.)

VISUAL PRODUCTIONS

Ewald, William R., Jr. (Barbara Walker, Jeffrey Holyrod, et al) Language A and Language B. Describes science/humanism approach of ACCESS project. (7-1/2' production; 16mm filmed scenes of ACCESS meetings, stop motion animation, voice-over added to 3/4" videocassette; dubbed

onto 16mm film positive.) June 1974

_____ (et al) ACCESS Q: Who Needs It? Three segments: Testimonial statements of citizen leaders, selected computer assisted graphic film, edited, and a "Meet the Press" format re ACCESS policies. (30' production by KEYT on 2" quad videotape; transferred to 3/4" videocassette) October 1974

_____ (et al) Same, but just computer assisted graphic film edits (11' 16mm film positive) October 1974

_____ (et al) Briefing On the ACCESS Project (20 overhead projector slides) March 1975

_____ (et al) Donald Sheldon, Detroit Metropolitan Fund and William Ewald in a dialogue-interview on the "Common Ground" Show about the transferability of ACCESS graphics. (30' production produced by WTVS on 2" quad videotape; transferred to 3/4" videocassette) May 1975

RESOURCE PAPERS

Resource papers of the ACCESS Design Phase (included in Documentation Volumes A and B) are listed below by the study groups for which they were prepared.

Summary

W. Ewald (1-10), 14 pp.

GROUP ONE - Data and Information

Six UCSB Students Survey Sources of Data (1-1)
L. Rossi, 6 pp.

ACCESS Information Services (excerpted) (1-2)
R. Hayes, 31 pp.

(full working paper) (1-2a)
R. Hayes, 64 pp.

Summary of June 1 Workshop (1-3)
B. Walker, 12 pp.

ACCESS and Data Referencing (1-4)
R. Hayes, 22 pp.

Regional Library Resources (1-5)
W. Ranill, 9 pp.

Los Padres National Forest (1-6)
(An example of a Regional Source of Data and Data Processing)
L. Rossi, 19 pp.

GROUP TWO - Research Resources

ACCESS Space Survey (2-1)
K. McDaniel, 4 pp.

Organization and Expertise Letters & Forms (2-2)
W. Ewald & B. Walker, 3 pp.

Computer and Communication Letters & Forms (2-3)
W. Ewald & T. Ferguson, 4 pp.

Example of a Special Survey for Regional Talent (2-4)
W. Ewald, 3 pp.

Research Resources (2-5)
B. Walker, 21 pp.

Computer Facilities Survey (2-6)
K. Kelley and F. Bellamy, 11 pp.

GROUP THREE - Relation to General Planning

Survey of Current Planning Efforts in Santa Barbara County (3-1)
L. Rossi, 72 pp.

City Planning and Environmental Law (3-2)
K. McDaniel, 5 pp.

Communities, Neighborhoods and Electronics (3-3)
L. Rossi, 4 pp.

Issues and ACCESS (3-4)
D. Wormhoudt, 29 pp.

GROUP FOUR - Organization

The Organization of the 3-5 Year Pilot Test (4-1)
W. Ewald, 8 pp.

GROUP FIVE - Broadcast & Cable TV

ACCESS Proposes Two-Way Television (5-1)
W. Ewald & B. Walker, 13 pp.

Group Dialogue Stimulated by Electronic Polling System (5-2)
W. Wittausch 7 pp.

ACCESS Produces a Videocassette (5-3)
B. Walker, 10 pp.

Selected Films (5-4)
V. Comer, 5 pp.

GROUP SIX - Computer Systems

Computer Systems Under Consideration (6-1)
A. Klimeck, 31 pp.

Grids, Polygons, Latitudes-Longitudes Workshop (6-2)
L. Rossi, 11 pp.

READING BIBLIOGRAPHY IN VISUAL PERCEPTION

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